Veriton 7600GTR/7600GT/7600V
Veriton 5600GT/5600V
Veriton 3600GT/3600V
Service Guide

Service guide files and updates are available
on the AIPG/CSD web; for more information,
please refer to http://csd.acer.com.tw

Revision History

Please refer to the table below for the updates made on Veriton 7600GTR/GT/V, 5600GT/V and 3600GT/V service guide.

Date	Chapter	Updates

Copyright

Disclaimer

Conventions

The following conventions are used in this manual:

Screen messages	Denotes actual messages that appear on screen.
NOTE	Gives bits and pieces of additional information related to the current topic.
WARNING	Alerts you to any damage that might result from doing or not doing specific actions.
CAUTION	Gives precautionary measures to avoid possible hardware or software problems.
IMPORTANT	Reminds you to do specific actions relevant to the accomplishment of procedures.

Preface

Before using this information and the product it supports, please read the following general information.

1. This Service Guide provides you with all technical information relating to the BASIC CONFIGURATION decided for Acer's "global" product offering. To better fit local market requirements and enhance product competitiveness, your regional office MAY have decided to extend the functionality of a machine (e.g. add-on card, modem, or extra memory capability). These LOCALIZED FEATURES will NOT be covered in this generic service guide. In such cases, please contact your regional offices or the responsible personnel/channel to provide you with further technical details.

2. Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel. If, for whatever reason, a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

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System Specifications

Overview

The Veriton 7600GTR/7600GT/7600V, 5600GT/5600V and 3600GT/3600V supports Intel® Pentium 4 processor with Hyper-Threading (HT) Technology, adding intelligence to help manage and prioritize multiple threads received from the microprocessor.

This highly flexible and scalable solution meets a broad range of demanding computing needs. The 865G/865GV chipsets offer high-bandwidth interfaces such as dual-channel DDR400 main memory, 800 MHz system bus, integrated graphics controller with Intel Extreme Graphics 2 Technology, AGP8X Graphics (for Intel 865G chipset), Intel Communication Streaming Architecture featuring a Dedicated Network Bus (DNB) interface for wire-speed Gigabit Ethernet (GbE) and Hi-Speed USB 2.0 connectivity to ensure the flexibility and performance you expect.

Features

Performance

- Intel Pentium$^{®}$ 4 supporting FSB up to 800 MHz or
- Intel Celeron$^{®}$ supporting FSB up to 400 MHz
- Intel Hyper-Threading Technology supported on 3.06 GHz and higher Pentium$^{®}$ 4 system
- Intel 865G + ICH5R (for VT7600GTR), Intel 865G + ICH5 (for VT7600GT/5600GT/3600GT), Intel 865GV + ICH5 (for VT7600V/5600V/3600V) chipset
- Integrated VGA
- 8X AGP expansion slot (for Intel 865G chipset)
- DDR400/333/266 SDRAM, 4 DIMM slots, expandable to 4GB dual-channel memory
- Power management function
- CD-ROM, CD-RW, DVD-ROM, or DVD/CD-RW combo drive
- High-capacity, Enhanced-IDE hard disc
- Supports USB 2.0 high-performance peripherals
- Plug-and-Play (PnP) feature

Multimedia

- 3-D quality audio system via onboard audio controller
- Audio-in/Line-in, Audio-out/Line-out, Headphone-out, and Microphone-in interfaces

NOTE: The system has two microphone-in jacks (front and rear). However, you can not use both of them at the same time. By default, your system enables the microphone-in jack in front and disables the one at the back.

Connectivity

- Three 32-bit v2.3 Master PCI bus slots (support 3.3v/5v PCI bus interface)
- One AGP slot supports 8x/4x at 0.8V (AGP 3.0) or 4x at 1.5V (3.3V not supported) -- (for Intel 865G chipset)
- Two PS/2 interfaces for mouse and keyboard
- One serial port
- One parallel port
- One VGA port
- Eight Universal Serial Bus (USB) 2.0 ports (two internal, two on the front and four on the rear panel)
- High-speed V92, 56K Fax/modem (optional)
- Broadcom 5705 10/100/1000MB Gigabit Ethernet LAN support with remote wake-up function

Expansion

- 3 PCI slots + 4 DIMM slots+ 1 AGP slot (for Intel 865G chipset)
- Upgradeable memory and hard disk

Front Panel for Veriton 3600GT/3600V

The computer's front panel consists of the following:
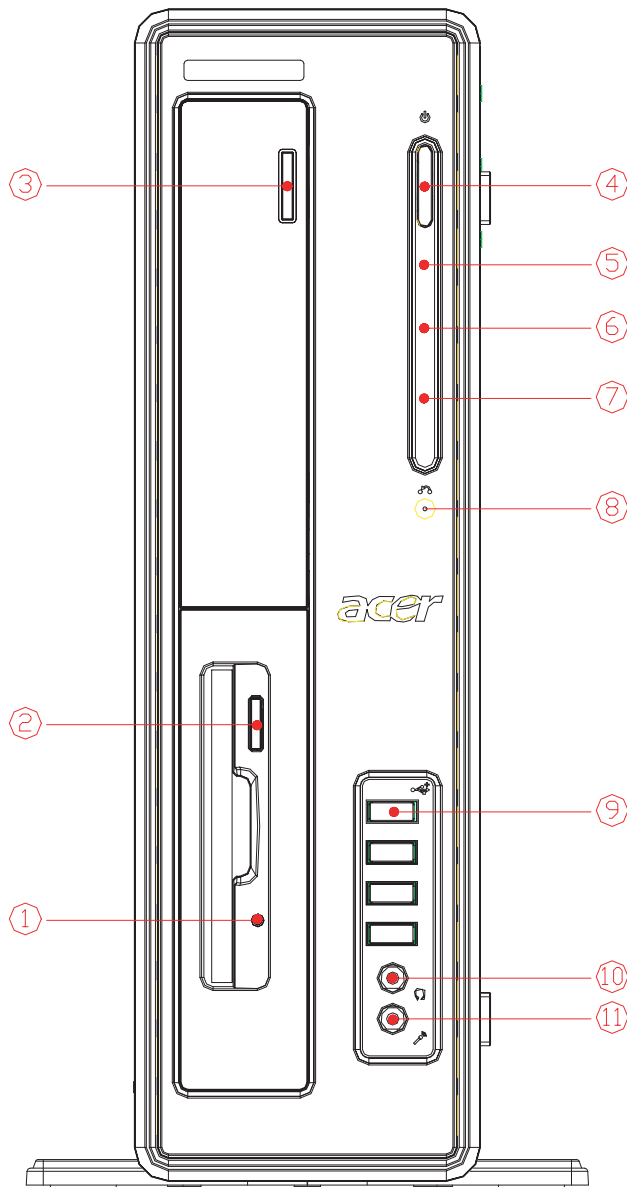
Label	Icon	Description
1		Floppy drive LED
2		Floppy drive eject button
3		Optical drive Stop/Eject Button
4	⏻	Power button

Label	Icon	Description
5		Power LED
6		LAN activity LED
7		Hard disk drive activity LED
8		One button recovery slot
9		USB ports
10		Headphone-out port
11		Microphone-in port (front)*

NOTE: *The system has two microphone-in ports (front and rear). However, you can not use both of them at the same time. The default setting for your system enables the microphone-in port in front and disables the one at the back.

Rear Panel for Veriton 3600GT/3600V
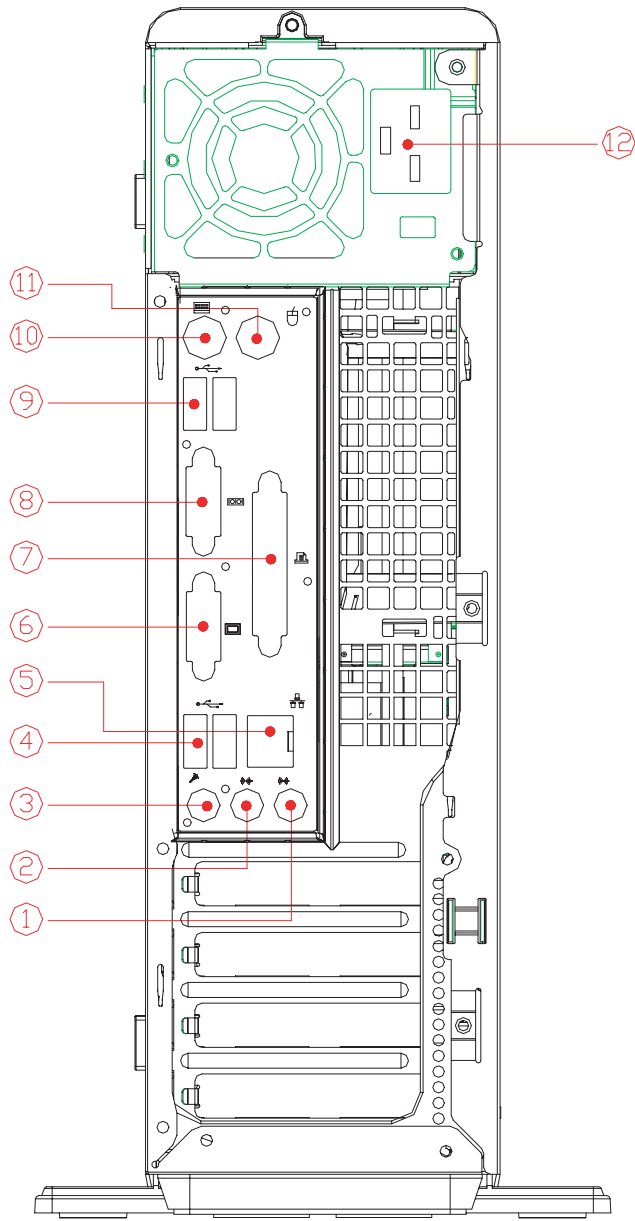
Label	Icon	Color	Description
1	((•))	Light blue	Audio-in/Line-in jack
2	((•))►	Lime	Audio-out/Line-out jack
3	🎤	Pink	Microphone-in jack (rear)*

Label	Icon	Color	Description
4		Black	USB ports
5		White	Network port
6		Blue	CRT/LCD monitor port**
7		Burgundy	Parallel/printer port
8		Teal or Turquoise	Serial port
9		Black	USB ports
10		Purple	PS/2 keyboard port
11		Green	PS/2 mouse port
12			Power cord socket

NOTE: * The system has two microphone-in ports (front and rear). However, you can not use both of them at the same time. The default setting for your system enables the microphone-in port in front and disables the one at the back.

NOTE: ** The CRT monitor port is automatically disabled when an add-on AGP VGA card is installed into the system (for Intel 865G chipset). Connect the monitor to the VGA port instead.

Front Panel for Veriton 5600GT/5600V

The computer's front panel consists of the following:
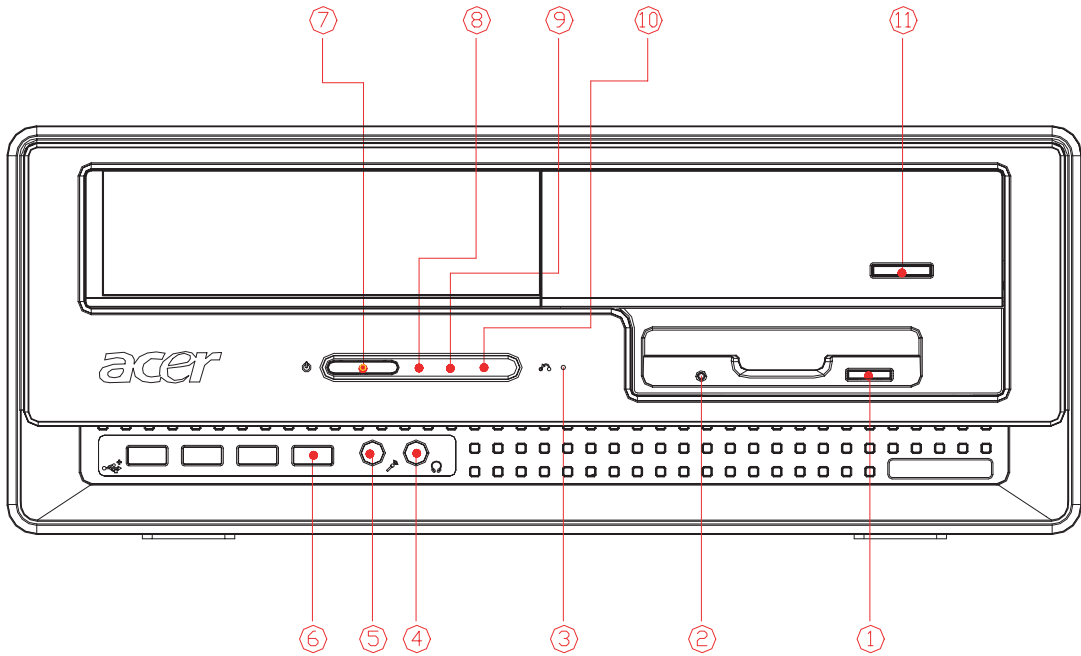
Label	Icon	Description
1		Floppy drive eject button
2		Floppy drive LED
3		One button recovery slot
4	⌒	Headphone-out port
5		Microphone-in port (front)*
6		USB ports
7		Power button
8		Power LED
9	▥▶	LAN activity LED
10		Hard disk drive activity LED

Label	Icon	Description
11		Optical drive Stop/Eject Button

NOTE: *The system has two microphone-in ports (front and rear). However, you can not use both of them at the same time. The default setting for your system enables the microphone-in port in front and disables the one at the back.

Rear Panel for Veriton 5600GT/5600V
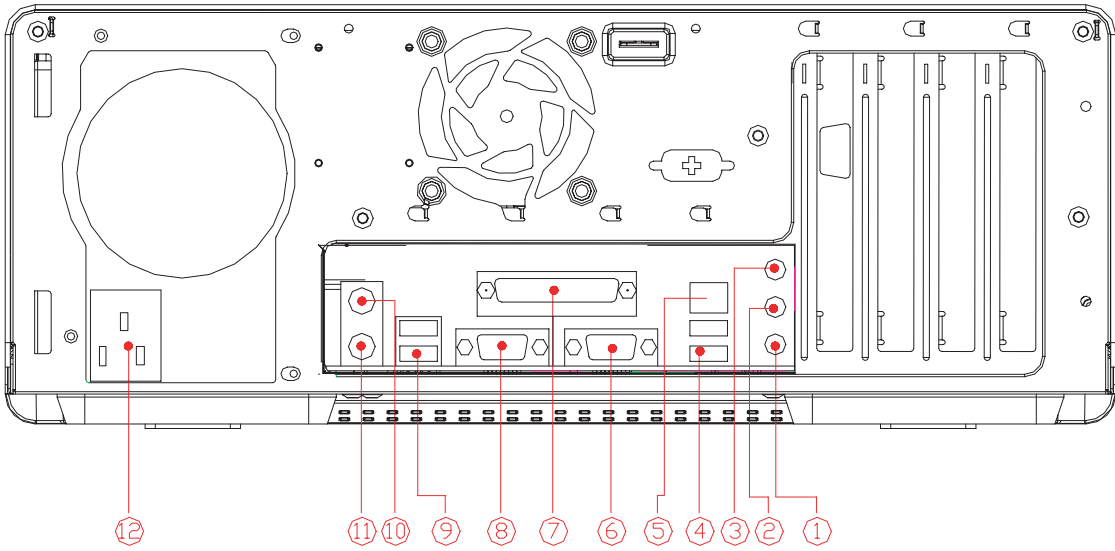
Label	Icon	Color	Description
1		Pink	Microphone-in jack (rear)*
2		Lime	Audio-out/Line-out jack
3		Light blue	Audio-in/Line-in jack
4		Black	USB ports
5		White	Network port
6		Blue	CRT/LCD monitor port**
7		Burgundy	Parallel/printer port
8		Teal or Turquoise	Serial port
9		Black	USB ports

Label	Icon	Color	Description
10		Green	PS/2 mouse port
11		Purple	PS/2 keyboard port
12			Power cord socket

NOTE: * The system has two microphone-in ports (front and rear). However, you can not use both of them at the same time. The default setting for your system enables the microphone-in port in front and disables the one at the back.

NOTE: ** The CRT monitor port is automatically disabled when an add-on AGP VGA card is installed into the system (for Intel 865G chipset). Connect the monitor to the VGA port instead.

Front Panel for Veriton 7600GTR/7600GT/7600V

The computer's front panel consists of the following:
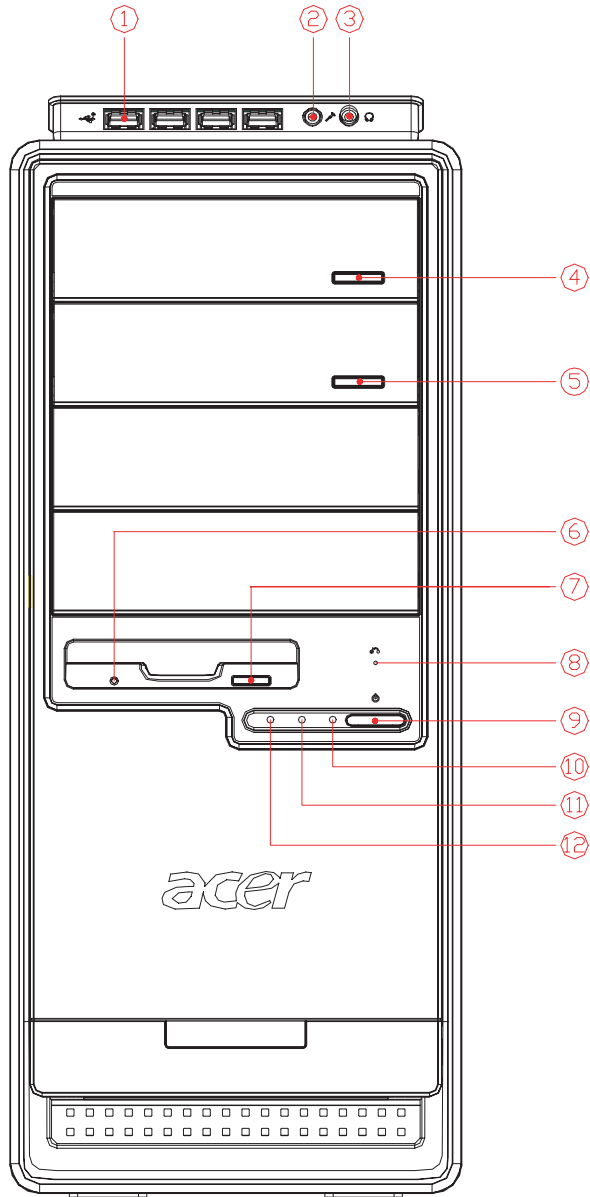
Label	Icon	Description
1		USB ports
2		Microphone-in port (front)*
3		Speak-out/line-out port

Label	Icon	Description
4		Optical drive Stop/Eject Button
5		Optical drive Stop/Eject Button
6		Floppy drive LED
7		Floppy drive eject button
8		One button recovery slot
9	⏻	Power button
10		Power LED
11	///▶	LAN activity LED
12		Hard disk drive activity LED

NOTE: *The system has two microphone-in ports (front and rear). However, you can not use both of them at the same time. The default setting for your system enables the microphone-in port in front and disables the one at the back.

Rear Panel for Veriton 7600GTR/7600GT/7600V
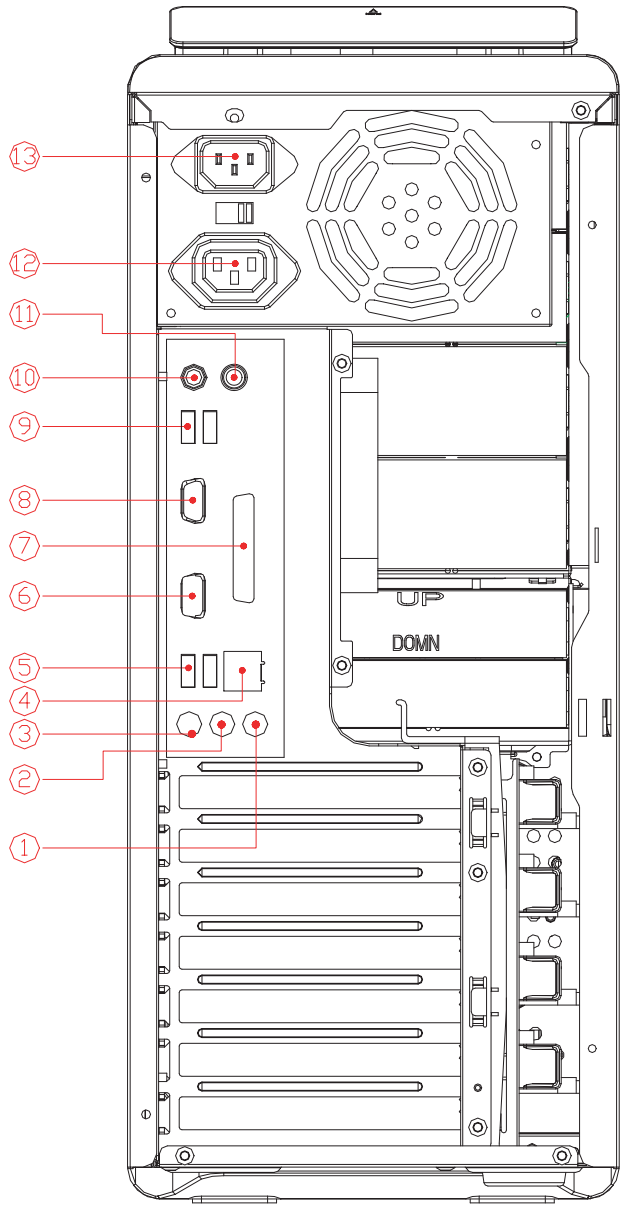
Label	Icon	Color	Description
1	((•))	Light blue	Audio-in/Line-in jack
2	((•))►	Lime	Audio-out/Line-out jack

Label	Icon	Color	Description
3		Pink	Microphone-in jack (rear)*
4		White	Network port
5		Black	USB ports
6		Blue	CRT/LCD monitor port**
7		Burgundy	Parallel/printer port
8		Teal or Turquoise	Serial port
9		Black	USB ports
10		Purple	PS/2 keyboard port
11		Green	PS/2 mouse port
12			Power cord socket
13			Power cord socket

NOTE: * The system has two microphone-in ports (front and rear). However, you can not use both of them at the same time. The default setting for your system enables the microphone-in port in front and disables the one at the back.

NOTE: **The CRT monitor port is automatically disabled when an add-on AGP VGA card is installed into the system. Connect the monitor to the VGA port instead.

System Block Diagram

Block Diagram
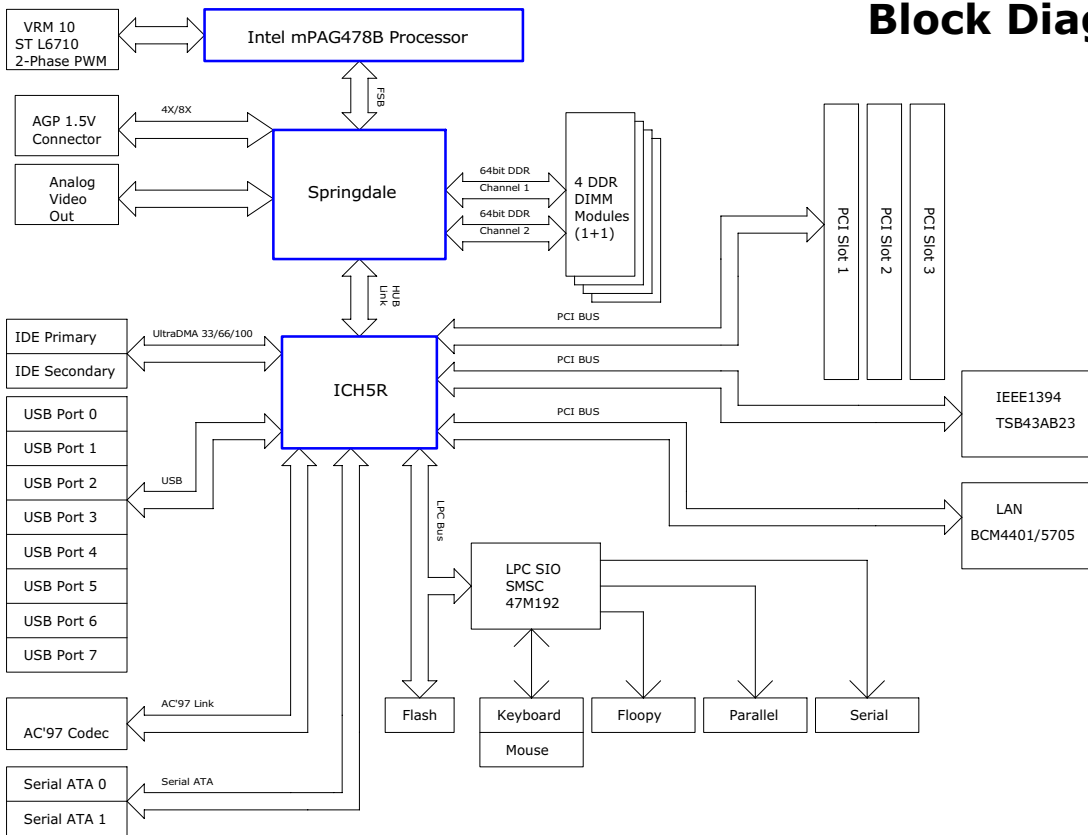
Keyboard

The keyboard has full-sized keys that include separate cursor keys, two Windows keys, and twelve function keys.

Lable	Key	Description
1	Sleep button	Puts the system to sleep when pressed this button.
2	Internet/E-mail/Search keys	Consist of three buttons: • **Web browser** : launches the browser application that came bundled with your system. • **E-mail** : launches the e-mail application that came bundled with your system. • **Search** : opens a search window.
3	Multimedia keys	Allow you to do the following: • **Play/Pause** button ▶/❙❙ : press to start playing the audio track or video file. Press again to pause. • **Stop** button ■ : press to stop playing the audio track or video file. • **Forward** button ▶▶❙ : press to skip forward to the next track or file and start playing. • **Backward** button ❙◀◀ : press to skip backward to the previous track or file and start playing.
4	Volume control/Mute keys	Allow you to do the following: • **Volume up** button VOL+ : press to increase audio volume. • **Volume down** button VOL− : press to decrease audio volume. • **Mute** button : toggle sound on/off.

Lable	Key	Description
5	Scroll Lock Key SCROLL LOCK	When activated, the screen moves one line up or down when you press the up arrow or down arrow respectively. Take note that SCROLL LOCK may not work with some applications.
6	Num Lock Key NUM LOCK	When activated, the keypad is set to numeric mode, i.e., the keys function as a calculator (complete with arithmetic operators such as +, -, * and /).
7	Cursor keys	Also called arrow keys, let you move the cursor around the screen. They serve the same function as the arrow keys on the numeric keypad when the NUM LOCK is toggled off.
8	Application key	Opens the applications context menu (same function as clicking the right button of the mouse).
9	Windows logo key	**Start** button. Combinations with this key perform special functions, such as: • **Windows + Tab** : Activates the next Taskbar button • **Windows + E** : Explore My Computer • **Windows + F** : Find Document • **Windows + M** : Minimize All • SHIFT **+ Windows + M** : Undo Minimize All • **Windows + R** : Displays Run dialog box
10	Caps lock CAPS LOCK	When activated, all alphabetic characters typed appear in uppercase (same function as pressing SHIFT + <letter>).
11	Function keys	The function keys, F1 ~ F12, let you perform specific functions, depending on the application that uses them.
	Palm rest	The detachable palm rest provides you a comfortable place to rest your hands while typing.

Hardware Specifications and Configurations

Processor

Item	Specification
Type	Intel® Pentium 4 1.8 ~ 3.2GHz FSB400/533/800MHz Intel® Celeron 2.0 ~ 2.6GHz and above
Slot	Socket 478
Speed	Internal: 1.4 ~ 3.2GHz+ External: 400/533/800MHz Data Bus Frequency for Springdale-G.
Minimum operating speed	0 MHz (If **Stop CPU Clock in Sleep State the BIOS Setup** is set to **Enabled**.)
Voltage	Processor voltage can be detected by the system without setting any jumper.

BIOS

Item	Specification
BIOS code programmer	Award
BIOS version	V6.0
BIOS ROM type	PLCC
BIOS ROM size	4MB
Support protocol	PCI 2.1, APM1.2, DMI 2.00.1, E-IDE, ACPI 1.0, ESCD 1.03, ANSI ATA 3.0, PnP 1a, Bootable CD-ROM 1.0, ATAPI
Boot from CD-ROM feature	Yes
Support to LS-120 drive	Yes
Support to BIOS boot block feature	Yes

NOTE: The BIOS can be overwritten/upgraded using the FLASH utility (AWDFLASH.EXE).

System Memory

Item	Specification
Memory socket number	4 sockets
Support memory size per socket	128/256/512/1024MB
Support maximum memory size	4GB (4096MB)
Support memory type	DDR SDRAM PC3200/PC2700/PC2100
Support memory speed	DDR 400/ DDR 333/ DDR 266
Support memory voltage	2.5V
Support memory module package	184 -pin DIMM
Support to parity check feature	Yes
Support to Error Correction Code (ECC) feature.	No
Memory module combinations	You can install memory modules in any combination as long as they match the Memory Combination specifications.

Memory Combinations

DIMM 1	DIMM 2	DIMM3	DIMM4	Total
128MB~1GB	128MB~1GB	128MB~1GB	128MB~1GB	128MB~4GB

NOTE: Please read "**Memory Channel Mode**" on page 19.

Cache Memory

Item	Specification
First-Level Cache Configurations	
Cache function control	Enable/Disable by BIOS Setup (Advanced options)
Second-Level Cache Configurations: Below information is only applicable to system with installed Pentium 4 processor.	
L2 Cache RAM size	Pentium IV processor: 512 KB for Northwood
L2 Cache RAM speed	The same with the processor core clock frequency
L2 Cache function control	Enable/Disable by BIOS Setup

Video Interface

Item	Specification
Video controller resident bus	AGP bus
Video interface support (for Intel 865G chipset)	8x/ 4x AGP Data Transfer The AGP buffers operate only 0.8V/1.5V mode. (3.3V not supported)

Audio Interface

Item	Specification
Audio controller	Intel ICH5R/ICH5
Audio controller resident bus	AC'97 link
Audio function control	Enable/disable by BIOS Setup
Mono or stereo	Stereo
Resolution	20 bits
Compatibility	AC'97 2.1 compliant Sound Blaster Pro compatible Mixed digital and analog high performance chip Enhanced stereo full duplex operation High performance PCI audio accelerator High-Quality ESFM music synthesizer MPU-401(UART mode) interface for wavetable synthesizers and MIDI devices Integrated game port Meets PC 97/PC98 and WHQL specifications
Music synthesizer	Yes
Sampling rate	44.1 KHz
MPU-401 UART support	Yes
Microphone jack	Supported On audio-I/O board (Front Panel/Rear Panel Access)
Headphone jack	Supported On audio-I/O board (Front Panel Access)
Line-in/Line-out/speaker-out	Supported On audio-I/O board (connects via CN14)

IDE Interface

Item	Specification
IDE controller	Intel ICH5R/ICH5
IDE controller resident bus	PCI bus
Number of IDE channel	2 on-board: 40-pin hard disk drive connector
Support IDE interface	E-IDE (up to PIO mode 4 and Ultra DMA33, Ultra DMA66, Ultra DMA100 and Ultra DMA133) ANSIS ATA rev3.0/ ATAPI specification
Support bootable CD-ROM	Yes

Floppy disk drive Interface

Item	Specification
Vendor & Model Name	Panasonic JU-256A048P Mitsumi D353M3D-R694005 NEC FD1231T-STD-R2
Floppy Disk Specifications	
Media Recognition	1.44 MB
Cylinders	80
Tracks	160
Rotational speed (RPM)	300
Read/write heads	2
Encoding method	MFM/FM
Power requirement (max)	5V
Startup (peak)	290mA
Maximum Seeking (RMS)	710mA
Voltage tolerance (V)	+5V +/- 10%
MTBF (Mean Time Between Failure)	30,000
Floppy disk drive controller	Embedded in SMSC LPC47M192
Floppy disk drive controller resident bus	LPC
Support FDD format	360KB, 720KB, 1.2MB, 1.44MB, 2.88MB; 3-mode

Parallel Port

Item	Specification
Parallel port controller	Embedded in SMSC LPC47M192
Parallel port controller resident bus	LPC
Number of parallel ports	1
Support SPP, ECP, EPP	SPP/ ECP / EPP 1.7 & 1.9
Connector type	25-pin D-type female connector
Parallel port function control	Enable/disable by BIOS Setup
Optional ECP DMA channel (in BIOS Setup)	DMA channel 1 / DMA channel 3
Optional parallel port I/O address (via BIOS Setup)	378-37F / 278-27F / 778-77A
Optional parallel port IRQ (via BIOS Setup)	IRQ5 / IRQ7

Serial Port

Item	Specification
Serial port controller	Embedded in SMSC LPC47M192
Serial port controller resident bus	LPC
Number of serial port	2
Serial ports location	COM1, COM 2(Reserve for header)
16C550 UART support	Yes
Connector type	15-pin connector (1 with pin reserve)
Optional serial port I/O address (via BIOS Setup)	2F8-2FF / 3F8-3FF
Optional serial port IRQ (via BIOS Setup)	4 / 3

USB Port

Items	Specifications
Universal UHCI	USB 1.1
Universal EHCI	USB 2.0
USB Class	Support legacy keyboard for legacy mode

Main Board Major Chips

Item	Controller
North Bridge	Intel 865G/865GV
South Bridge	Intel ICH5R/ICH5
Super I/O controller	SMSC LPC 47M192
Audio Codec	Realtek ALC202 A
LAN controller	Broadcom 5705
HDD controller	Built-in Intel® ICH5R/ICH5
Keyboard controller	Built-in Intel® ICH5R/ICH5
RTC	Built-in Intel® ICH5R/ICH5

Environmental Requirements

Item	Specifications
Temperature	
Operating	+10 to +35°C
Non-operating	-10 to +60°C
Non-operating	-20 to +60°C (Storage package)
Humidity	
Operating	15% to 80% RH, non-condensing
Non-operating	15% to 80% RH, non-condensing (Unpacked)
Non-operating	15% to 80% RH, non-condensing (Storage package)
Vibration	
Operating: Sweep rate: Direction: Test cycles:	5~16.2 Hz 0.38mm (peak to peak) 16.2~250 Hz 0.2G 1 octave/minute X, Y, Z axis 2 cycles per axis
Non-operating: (Packed) Sweep rate: Direction: Test cycles:	5~27.1 Hz 0.6G 27.1~50 Hz 0.4mm (peak to peak) 50~500 Hz 2.0G 0.5 coactive/minute X, Y, Z axis 4 cycles per axis

Switching Power Supply

A-1 Input frequency

Normal Frequency	Frequency Variation Range
50Hz	47Hz to 53Hz
60Hz	57Hz to 63Hz

A-2 Input voltage

Nominal Voltage	Variation Range
100 - 120 VRMS	90-132 VRMS
200 - 240 VRMS	180-264 VRMS

A-3 Input current

Input Current	Measuring Range
6A	90 -132 VRMS
3A	180 - 264 VRMS

(This is 200W power supply)

❏ This "4A" includes the outlet supply current: 2A

❏ Measure at line input 90 VRMS and maximum load condition.

200W Power Supply

Output Requirements	Regulation	Current Rating (Max)
+5V	+5%	18A
+12V	+5%	14A
-12V	+10%	0.5A
+3.3V	+5%	14A
+5VSB	+5%	2A

NOTE: 1. +5V & +3.3V total power is 110W max.

250W Power Supply

Output Requirements	Regulation	Current Rating (Max)
+5V	+5%	25A
+12V	+5%	17A
-12V	+10%	0.8A
+3.3V	+5%	20A
+5VSB	+5%	2A

1. +5V & +3.3V total power is 150W max.

Memory Channel Mode

	Single Channel / Virtual Single Channel	Dual Channel
DIMM Population	No restrictions	Matching DIMM pairs
Rank(Row) Size	Size of one side of the DIMM populated in the channel (64MB - 512MB)	2x the size of one side of the DIMM populated in the channel(A or B) (128MB - 1GB)
Number of Ranks(Rows)	8 maximum	4 maximum
Channel Size	64 bits	128 bits
Page Size	Size read from DIMM (4KB, 8KB, 16KB)	2 x Size read from DIMM (8KB, 16KB, 32KB)
Burst Length	4 or 8	4

Memory Channel	DIMM Slot Number
Channel A	DIMM 1
	DIMM 2
Channel B	DIMM 3
	DIMM 4

Single Channel Mode

SC Mode - CH A Only   SC Mode - CH B Only   VSC Mode - CH A & B
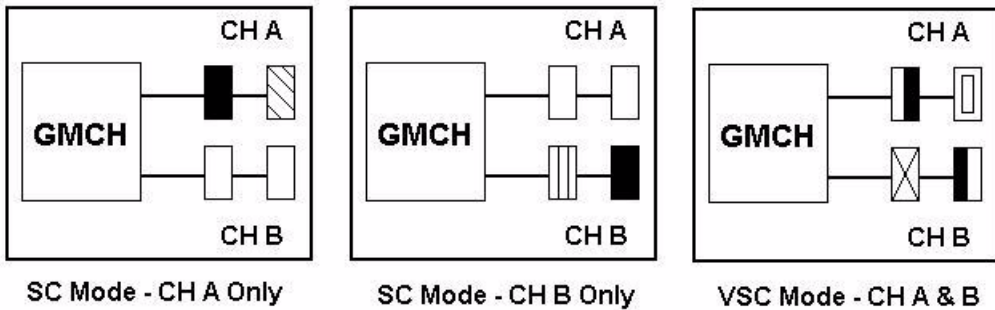
Single Channel (SC) mode is also referred to as Virtual Single Channel (VSC) mode.

NOTE: Memory channel speed determined by slowest DIMM populated in system

Dual Channel Mode
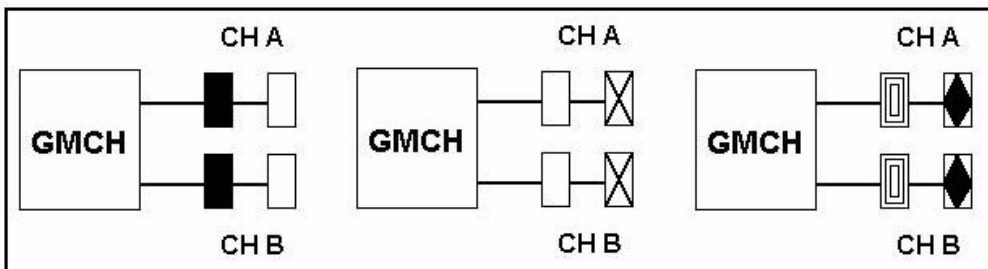
DIMM 1	DIMM 2	DIMM3	DIMM4	Total
128MB~1GB		128MB~1GB		256MB~2GB
	128MB~1GB		128MB~1GB	256MB~2GB
128MB~1GB	128MB~1GB	128MB~1GB	128MB~1GB	512MB~4GB

The following conditions *must* be met:

- ❑ Matched DIMM configuration in each channel
    - ❑ Same Density (128MB, 256MB, 512MB, etc.)
    - ❑ Same DRAM technology (128Mb, 256Mb, or 512Mb)
    - ❑ Same DRAM bus width (x8 or x16)
    - ❑ Both either single-sided or dual-sided
- ❑ Matched in both Channel A and Channel B memory channels
    - ❑ Populate symmetrical memory slots (Slot 0 or Slot 1)

The following conditions do *not* need to be met:

- ❑ Same brand
- ❑ Same timing specifications
- ❑ Same DDR speed

Symmetrical DIMMs must be identical for optimal performance

- ❑ Same DIMM density, e.g. 128MB, 256MB, 512MB, etc.
- ❑ Same DRAM Technology, e.g. 128M-bit, 256M-bit, etc.
- ❑ Same DRAM bus width, e.g. x8 or x16
- ❑ Single Sided or Dual Sided

NOTE: Note: Memory interface speed will be set to lowest speed of memory populated

Memory Characteristics

Optimize performance for single or dual channel is obtained with matched DIMM population

Table below shows DIMMs with same Organization and Density, but are non-matching as bus width, technology and/or external banks are different

- ❑ Mixing these DIMMs will put platform into single channel mode

	Same Organization	Same Density	Different Bus Width	Different Technology	Same # of DRAM Banks
	Organization	**Density**	**Composition**	**Technology**	**External Banks**
Non-Matched *128MB* DIMMs	16Mx64	128MB	16Mx8 * 8 pcs	128Mb	1
	16Mx64	128MB	16Mx16 * 4 pcs	256Mb	1
Non-Matched *256MB* DIMMs	32Mx64	256MB	16Mx8 * 16 pcs	128Mb	2
	32Mx64	256MB	32Mx8 * 8 pcs	256Mb	1
	Same Organization	Same Density	Same Bus Width	Different Technology	Different # of DRAM Banks

Maximizing Performance

Optimal configurations for highest performance:

❑ Matched, DDR400, Double-sided DIMMs

❑ Dual Channel Mode (Symmetrical DIMM population)

Lightly Loaded Config

Ch A   MCH   Ch B   or   Ch A   MCH   Ch B
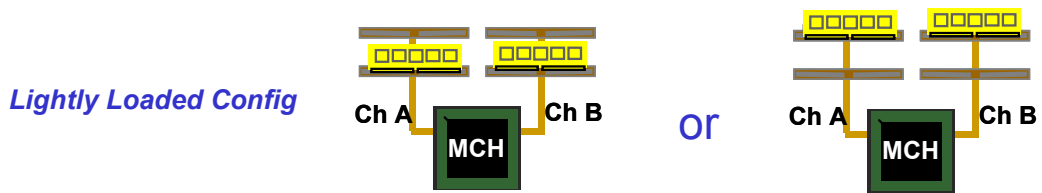
❑ Matched, DDR400, Dual Channel Mode

Fully Loaded Config

Ch A   MCH   Ch B   or   Ch A   MCH   Ch B
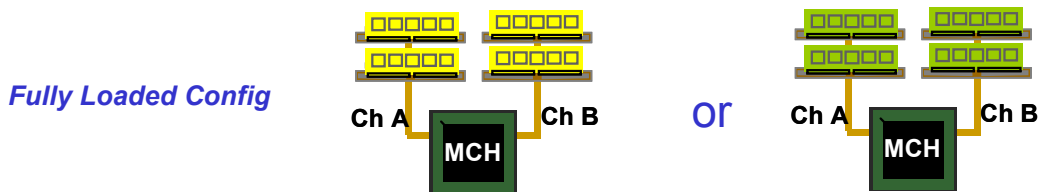
When not using DDR400, highest performing configuration:

❑ Symmetrical DIMM population with matched double-sided DIMMs

❑ Lightly loaded memory population aids in higher performance

❑ x8 Bus Width and lower DIMM cache latency also assists in higher performance

Ch A   MCH   Ch B   or   Ch A   MCH   Ch B
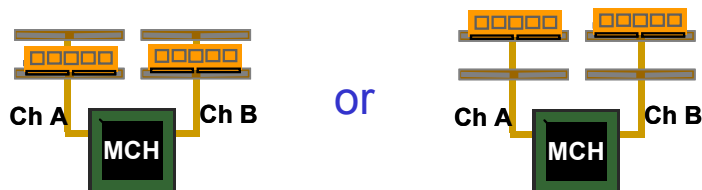
Dual Channel memory configuration provides higher performance than Single Channel configurations

Matched DIMMs need to have identical density, DRAM technology, DRAM bus width, and equal number of memory banks

Optimal platform performance with Dual Channel, DDR400, matched DIMMs

❑ Fully loaded configurations can be single or double-sided DIMMs

❑ Lightly loaded configurations need to be double-sided DIMMs

When not using DDR400, best performance obtained with

❑ Symmetrical DIMM population and matched double-sided DIMMs

❑ Lightly loaded configuration

System Utilities

Most systems are already configured by the manufacturer or the dealer. There is no need to run Setup when starting the computer unless you get a Run Setup message.

The Setup program loads configuration values into the battery-backed nonvolatile memory called CMOS RAM. This memory area is not part of the system RAM.

NOTE: If you repeatedly receive Run Setup messages, the battery may be bad. In this case, the system cannot retain configuration values in CMOS.

Before you run Setup, make sure that you have saved all open files. The system reboots immediately after you exit Setup.

Entering Setup

To enter Setup, press the key ⌷DEL⌷ during the POST (Power-on self-test).

NOTE: You must press ⌷DEL⌷ simultaneously while the system is booting.

The Setup Utility main menu then appears:

```
            Phoenix - AwardBIOS CMOS Setup Utility
 ┌──────────────────────────────────┬──────────────────────────────────┐
 │                                  │                                  │
 │  ► Product Information           │  ► PC Health Status              │
 │                                  │                                  │
 │  ► Standard CMOS Features        │  ► Frequency/Voltage Control     │
 │                                  │                                  │
 │  ► Advanced BIOS Features        │    Load Optimized Defaults       │
 │                                  │                                  │
 │  ► Advanced Chipset Features     │    Set Supervisor Password       │
 │                                  │                                  │
 │  ► Integrated Peripherals        │  x Set User Password             │
 │                                  │                                  │
 │  ► Power Management Setup         │    Save & Exit Setup             │
 │                                  │                                  │
 │  ► PnP/PCI Configurations        │    Exit Without Saving           │
 │                                  │                                  │
 ├──────────────────────────────────┴──────────────────────────────────┤
 │  Esc : Quit      F9 : Menu in BIOS      ↑ ↓ → ←   : Select Item      │
 │  F10 : Save & Exit Setup                                             │
 ├──────────────────────────────────────────────────────────────────────┤
 │                                                                      │
 │                                                                      │
 └──────────────────────────────────────────────────────────────────────┘
```

The above screen is the BIOS Utility Basic Level screen. It allows you to view and change only the basic configuration of your system.

The command line at the bottom of the menu tells you how to move within a screen and from one screen to another.

- ❏ To select an option, move the highlight bar by pressing ⌷↑⌷, ⌷↓⌷, ⌷←⌷, or ⌷→⌷, then press ⌷ENTER⌷.

- ❏ To change a parameter setting, press ⌷PG UP⌷ or ⌷PG DN⌷ until the desired setting is found, or press ⌷ENTER⌷ to pop out the screen with available items for selection.

- ❏ Press ⌷ESC⌷ to return to the main menu. If you are already in the main menu, press ⌷ESC⌷ again to exit Setup.

The parameters on the screens show default values. These values may not be the same as those in your system.

The grayed items on the screens have fixed settings and are not user-configurable.

Product Information

The screen below appears if you select Product Information from the main menu:

The Product Information menu contains general data about the system, such as the product name, serial number, BIOS version, etc. These information is necessary for troubleshooting (maybe required when asking for technical support).

```
            Phoenix - AwardBIOS CMOS Setup Utility
                      Product Information

   Product Name          000000000000000000000      Item Help
   Serial Number         000000000000000000000
   Main Board ID         000000000000000000000    Menu Level    ►
   Main Board S/N        000000000000000000000
   System BIOS Version   6.00 PG
   SMBIOS version        SMBIOS 2.3
   System BIOS ID        R03-A0
   BIOS release Date     000000000000000000000




↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
           F5:Previous Values              F7: Optimized Defaults
```

The following table describes the parameters found in this menu:

Parameter	Description
Product Name	Displays the model name of your system.
Serial Number	Displays your system's serial number.
Main Board ID	Displays the main board's identification number.
Main Board S/N	Displays your main board's serial number.
System BIOS Version	Specifies the main version of your BIOS utility.
SMBIOS version	The System Management Interface (SM) BIOS allows you to check your system hardware components without actually opening your system. Hardware checking is done via software during start up. This parameter specifies the version of the SMBIOS utility installed in your system.
System BIOS ID	Displays the system identification number.
BIOS release Date	Displays the release date of the BIOS utility.

Standard CMOS Features

Select "Standard CMOS Features" from the main menu to configure the drives installed in your system.

The following screen shows the Disk Drives menu:

```
              Phoenix - AwardBIOS CMOS Setup Utility
                      Standard CMOS Features

    Date (mm:dd:yy)        Wed, Oct  1 2003       │    Item Help
    Time (hh:mm:ss)        12 : 13 : 42           │
                                                  │ Menu Level    ►
  ► IDE Channel 0 Master                          │
  ► IDE Channel 0 Slave                           │ Change the day, month,
  ► IDE Channel 1 Master                          │ year and century
  ► IDE Channel 1 Slave                           │
                                                  │
    Drive A               [1.44M, 3.5 in.]        │
    Drive B               [None]                  │
                                                  │
    Video                 [EGA/VGA]               │
    Halt On               [All , But Keyboard]    │
                                                  │
    Base Memory                 640K              │
    Extended Memory           56320K              │
    Total Memory              57344K              │

↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
          F5:Previous Values              F7: Optimized Defaults
```

The following table describes the parameters found in this menu.

Parameter	Description	Options
Date	Lets you set the date following the weekday-month-day-year format	**Weekday**: Sun, Mon....Sat **Month**: Jan, Feb...Dec **Day**: 1 to 31 **Year:** 1980 to 2079
Time	Lets you set the time following the hour-minute-second format	**Hour:** 0 to 23 **Minute**: 0 to 59 **Second**: 0 to 59
IDE Channel 0 Master	Lets you configure the hard disk drive connected to the master port of IDE channel 0. To enter the IDE Channel 0 Master setup, press ENTER . The IDE CD-ROM is always automatically detected.	(Show the Status:) None HDD or CD-ROM Number
IDE Channel 0 Slave	Lets you configure the hard disk drive connected to the slave port of IDE channel 0. To enter the IDE Channel 0 Slave setup, press ENTER . The IDE CD-ROM is always automatically detected.	(Show the Status:) None HDD or CD-ROM Number
IDE Channel 1 Master	Lets you configure the hard disk drive connected to the master port of IDE channel 1. To enter the IDE Channel 1 Master setup, press ENTER . The IDE CD-ROM is always automatically detected.	(Show the Status:) None HDD or CD-ROM Number

Parameter	Description	Options
IDE Channel 1 Slave	Lets you configure the hard disk drive connected to the slave port of IDE channel 1. To enter the IDE Channel 1 Slave setup, press ENTER . The IDE CD-ROM is always automatically detected.	(Show the Status:) None HDD or CD-ROM Number
Drive A	Allows you to configure your floppy drive A.	**1.44 MB, 3.5-inch** None 360 KB, 5.25-inch 1.2 MB, 5.25-inch 720 KB, 3.5-inch 2.88 MB, 3.5-inch
Drive B	Allows you to configure your floppy drive B.	**None** 360 KB, 5.25-inch 1.2 MB, 5.25-inch 720 KB, 3.5-inch 1.44 MB, 3.5-inch 2.88 MB, 3.5-inch
Video	This item specifies the type of video card in use. The default setting is VGA/EGA. Since current PCs use VGA only, this function is almost useless and may be disregarded in the future.	**EGA/VGA** CGA40 CGA80 MONO
Halt On	This parameter enables you to control the system stops in case of Power-on self-test (POST) errors.	**All, But Keyboard** All Errors No Errors All, But Diskette All, But Disk/Key
Base Memory	Refers to the portion of memory that is available to standard DOS programs. DOS systems have an address space of 1 MB, but the top 384 KB (called high memory) is reserved for system use. This leaves 640 KB of conventional memory. Everything above 1 MB is either extended or expanded memory.	
Extended Memory	Memory above and beyond the standard 1 MB (megabyte) of base memory that DOS supports. Extended memory is only available in PCs with an Intel 80286 or later microprocessor. Extended memory is not configured in any special manner and is therefore unavailable to most DOS programs. However, MS Windows and OS/2 can use extended memory.	
Total Memory	Total base, and extended memory, and I/O ROM 384KB available to the system.	

IDE Channel 0 Master/Slave and IDE Channel 1 Master/Slave Setup

The following screen appears if you select any of the IDE drive parameters:

The following table describes the parameters found in this menu.

```
              Phoenix - AwardBIOS CMOS Setup Utility
                      IDE Channel 0 Master

   IDE HDD Auto-Detection    [Press Enter]              Item Help

   IDE Channel 0 Master      [Auto]             Menu Level    ▶▶
   Access Mode               [Auto]
                                                To auto-detect the
   Capacity                  0 MB               HDD's size, head... on
                                                this channel
   Cylinder                  0
   Head                      0
   Precomp                   0
   Landing Zone              0
   Sector                    0




↑↓→←:Move   Enter:Select   +/-/PU/PD:Value   F10:Save   ESC:Exit  F1:General Help
       F5: Previous Values        F6: Fail-Safe Defaults    F7: Default Settings
```

Parameter	Description	Options
IDE HDD Auto-Detection	Auto-detects your hard disk drive.	**Press Enter**
IDE Channel 0 Master/Slave IDE Channel 1 Master/Slave	Displays the device type	**Auto** None Manual
Access Mode	Selects the HDD access mode	**Auto** Large LBA CHS
Capacity	Shows the size of your hard disk in MB.	xxxxx MB
Cylinder	Shows your hard disk's number of cylinders.	0 to 65535
Head	Shows your hard disk's number of heads	0 to 255
Precomp	Selects the Precomp number for old HDD parking	0 to 65535
Landing Zone	Selects the Landing Zone number for old HDD parking	0 to 65535
Sector	Shows your hard disk's number of sectors	0 to 255

Advanced BIOS Features

The following screen shows the Advanced BIOS Features.

```
                 Phoenix - AwardBIOS CMOS Setup Utility
                        Advanced BIOS Features
┌──────────────────────────────────────────────────┬───────────────────────┐
│ ► Hard Disk Boot Priority    [Press Enter]    ▲   │      Item Help        │
│   Virus Warning              [Disabled]           │                       │
│   CPU L1 & L2 Cache          [Enabled]            │ Menu Level      ►     │
│   Hyper-Threading Technology [Enabled]            │                       │
│   Quick Power On Self Test   [Enabled]            │ Select Hard Disk Boot │
│   First Boot Device          [Floppy]             │ Device Priority       │
│   Second Boot Device         [Hard Disk]          │                       │
│   Third Boot Device          [CDROM]              │                       │
│   Boot Other Device          [Enabled]            │                       │
│   Swap Floppy Drive          [Disabled]           │                       │
│   Boot Up Floppy Seek        [Disabled]           │                       │
│   Boot Up NumLock Status     [On]                 │                       │
│   Gate A20 Option            [Fast]               │                       │
│   Typematic Rate Setting     [Disabled]           │                       │
│ x Typematic Rate (Chars/Sec) 6                    │                       │
│ x Typematic Delay (Msec)     250                  │                       │
│   Security Option            [Setup]              │                       │
│   APIC Mode                  [Enabled]            │                       │
│   MPS Version Control For OS [1.4]                │                       │
│   OS Select For DRAM > 64MB  [Non-OS2]            │                       │
│   HDD S.M.A.R.T. Capability  [Enabled]            │                       │
│   Report No FDD For WIN 95   [No]                 │                       │
│   Full Screen LOGO Show      [Enabled]       ▼    │                       │
├──────────────────────────────────────────────────┴───────────────────────┤
│ ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help│
│           F5:Previous Values            F7: Optimized Defaults             │
└───────────────────────────────────────────────────────────────────────────┘
```

The following table describes each Advanced BIOS Features parameter. Settings in boldface are the default and suggested settings.

Parameter	Description	Options
Hard Disk Boot Priority	Selects the hard disk boot priority.	**Press [Enter]** Show Hard Disk Name 1/2/3/4/5/6/7/8
Virus Warning	Allows you to choose the Virus warning feature for the IDE hard disk boot sector protection. If this function is enabled and someone attempts to write data into this area, BIOS will show a warning message on screen and alarm beep.	**Disabled** Enabled
CPU L1 & L2 Cache	Uses internal level 1 (L1) and external level 2 (L2) cache memory to improve performance.	**Enabled** Disabled
Hyper-Threading Technology	The processor uses Hyper-Threading technology to increase transaction rates and reduces end-user response times. The technology treats the two cores inside the processor as two logical processors that can execute instructions simultaneously. In this way, the system performance is highly improved. If you disable the function, the processor will use only one core to execute the instructions.	**Enabled** Disabled

Parameter	Description	Options
Quick Power On Self Test	This parameter speeds up POST by skipping some items that are normally checked.	**Enabled** Disabled
First Boot Device	This parameter allows you to specify the system boot up search sequence.	**Floppy**, LS120, Hard Disk, CD-ROM, ZIP100, LAN (on board LAN-- Boot from LAN), Disabled
Second Boot Device	This parameter allows you to specify the system boot up search sequence.	Floppy, LS120, **Hard Disk**, CD-ROM, ZIP100, LAN (on board LAN-- Boot from LAN), Disabled
Third Boot Device	This parameter allows you to specify the system boot up search sequence.	Floppy, LS120, Hard Disk, **CD-ROM**, ZIP100, LAN (on board LAN-- Boot from LAN), Disabled
Boot Other Device	This parameter allows you to specify the system boot up search sequence.	**Enabled** Disabled
Swap Floppy Drive	Setting to Enabled will swap floppy drive a: and b:.	Enabled **Disabled**
Boot Up Floppy Seek	Setting to Enabled will make BIOS seek floppy drive a: before booting the system.	Enabled **Disabled**
Boot Up NumLock Status	Sets the NumLock status when the system is powered on. Setting to On will turn on the NumLock key when the system is powered on. Setting to Off will allows users to use the arrow keys on the numeric keypad.	**On** Off
Gate A20 Option	This item is to set the Gate A20 status. A20 refers to the first 64KB of extended memory. When the default value Fast is selected, the Gate A20 is controlled by port 92 or chipset specific method resulting in faster system performance. When Normal is selected, A20 is controlled by a keyboard controller or chipset hardware.	**Fast** Normal
Typematic Rate Setting	This item is used to enable or disable the typematic rate setting including Typematic Rate and Typematic Delay.	Enabled **Disabled**
Typematic Rate	After Typematic Rate Setting is enabled, this item allows you to set the rate (characters/second) at which at keys are accelerated.	Settings: 6,8,10,12,15,20,24 and 30.
Typematic Delay	This item allows you to select the delay between when the key was first pressed and when the acceleration begins	Settings: 250, 500, 750 and 1000.
Security Option	Specifies the type of BIOS password protection that is implemented. Setup means that the password prompt appears only when end users try to run Setup. System means that a password prompt appears every time when the computer is powered on or when end users try to run Setup.	**Setup** System
APIC Mode	This field is used to enable or disable the APIC (Advanced Programmable Interrupt Controller). Due to compliance with PC2001 design guide, the system is able to run in APIC mode. Enabling APIC mode will expand available IRQ resources from the system.	**Enabled** Disabled

Parameter	Description	Options
MPS Version Control For OS	This field allows you to select which MPS (Multi-Processor Specification) version to be used for the operating system.	**1.4** 1.1
OS Select For DRAM > 64MB	This item is only required if you have installed more than 64MB of memory and you are running the OS/2 operating system.	**Non-OS2** OS2
HDD S.M.A.R.T. Capability	The S.M.A.R.T (Self-Monitoring, Analysis, and Reporting Technology) system is a diagnostics technology that monitors and predicts device performance.	**Enabled** Disabled
Report No FDD for WIN 95	For compatibility with Windows 95 logo certification, select Yes to release IRQ6 when the system contains no floppy drive. When this setting is set to Yes, users have to select Disabled for the Onboard FDC Controller in the Integrated Peripherals menu.	**No** Yes
Full Screen LOGO Show	This item enables you to show the company logo on the bootup screen. **Enabled**: Shows a still image (logo) on the full screen at boot. **Disabled**: Shows the POST messages at boot.	**Enabled** Disabled

Advanced Chipset Features

The following screen shows the Advanced Chipset Features.

```
                   Phoenix - AwardBIOS CMOS Setup Utility
                          Advanced Chipset Features
┌──────────────────────────────────────────────────┬─────────────────────────┐
│   DRAM Timing Selectable    [By SPD]               │       Item Help         │
│   CAS Latency Time          [2]                    ├─────────────────────────┤
│   Active to Precharge Delay [8]                    │  Menu Level    ►        │
│   DRAM RAS# to CAS# Delay   [4]                    │                         │
│   DRAM RAS# Precharge       [4]                    │                         │
│   System BIOS Cacheable     [Enabled]              │                         │
│   Video  BIOS Cacheable     [Disabled]             │                         │
│   Memory Hole At 15M-16M    [Disabled]             │                         │
│   Delay Prior to Thermal    [16 Min]               │                         │
│   AGP Aperture Size (MB)    [128]                  │                         │
│   Init Display First        [Onboard/AGP]          │                         │
│                                                    │                         │
│   ** On-Chip VGA Setting **                        │                         │
│   On-Chip VGA               [Enabled]              │                         │
│   On-Chip Frame Buffer Size [ 8MB]                 │                         │
│   Boot Display              [Auto]                 │                         │
│                                                    │                         │
└──────────────────────────────────────────────────┴─────────────────────────┘
 ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
            F5:Previous Values           F7: Optimized Defaults
```

The following table describes each Advanced Chipset Features parameter. Settings in boldface are the default and suggested settings.
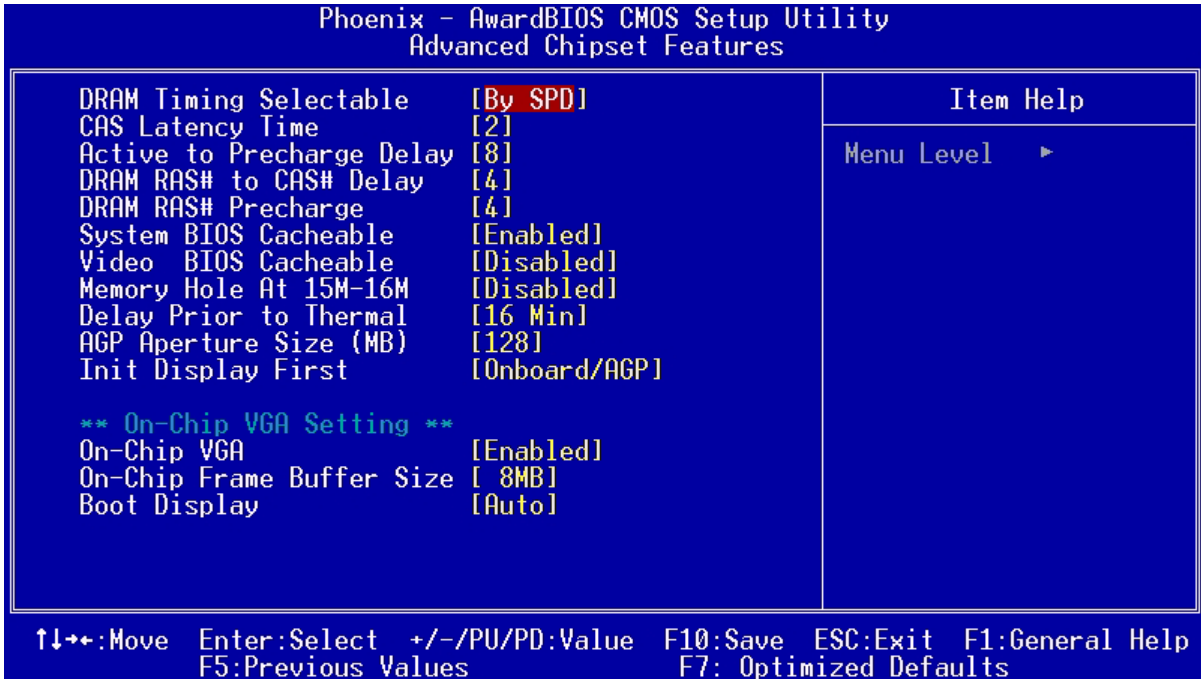
Parameter	Description	Options
DRAM Timing Selectable	Selects whether DRAM timing is controlled by the SPD (Serial Presence Detect) EEPROM on the DRAM module. Setting to By SPD enables DRAM timings to be determined by BIOS based on the configurations on the SPD. Selecting Manual allows users to configure the DRAM timings manually.	**By SPD** Manual
CAS Latency Time	This controls the timing delay (in clock cycles) before SDRAM starts a read command after receiving it. Settings: 2, 2.5, 3 (clocks). 2 (clocks) increases the system performance the most while 3 (clocks) provides the most stable performance.	**2T**, 2.5T, 3T
Active to Precharge Delay	The field specifies the idle cycles before precharging an idle bank.	5T, 6T, 7T, **8T**
DRAM RAS# to CAS# Delay	This field allows you to set the number of cycles for a timing delay between the CAS and RAS strobe signals, used when DRAM is written to, read from or refreshed. Fast speed offers faster performance while slow speed offers more stable performance.	2T, 3T, **4T**

Parameter	Description	Options
DRAM RAS# Precharge	This item controls the number of cycles for Row Address Strobe (RAS) to be allowed to precharge. If insufficient time is allowed for the RAS to accumulate its charge before DRAM refresh, refresh may be incomplete and DRAM may fail to retain data. This item applies only when synchronous DRAM is installed in the system.	2T, 3T, **4T**
System BIOS Cacheable	Selecting Enabled allows caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result.	**Enabled** Disabled
Video BIOS Cacheable	Selecting Enabled allows caching of the video BIOS ROM at C0000h to C7FFFh, resulting in better video performance. However, if any program writes to this memory area, a system error may result.	**Disabled** Enabled
Memory Hole at 15M-16M	In order to improve performance, certain space in memory can be reserved for ISA peripherals. This memory must be mapped into the memory space below 16MB. When this area is reserved, it cannot be cached.	**Disabled** Enabled
Delay Prior to Thermal	When the CPU temperature reaches a factory preset level, a thermal monitoring mechanism will be enabled following the appropriate timing delay specified in this field. With the thermal monitoring enabled, clock modulation controlled by the processor's internal thermal sensor is also activated to keep the processor within allowable temperature limit.	4 Min, 8Min, **16 Min**, 32 Min
AGP Aperture Size (MB)	This setting controls just how much system RAM can be allocated to AGP for video purposes. The aperture is a portion of the PCI memory address range dedicated to graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation.	4, 8, 16, 32, 64, **128** and 256
Init Display First	This item specifies which VGA card is your primary graphics adapter.	PCI Slot **Onboard/AGP**
On-Chip VGA	This setting determines whether the system RAM can be allocated to on-chip video controller for video purposes. When setting to Enabled, up to 128MB system RAM will be allocated to on-chip video controller.	**Enabled** Disabled
On-Chip Frame Buffer Size	Frame Buffer is the video memory that stores data for video display (frame). This field is used to determine the memory size for Frame Buffer. Larger frame buffer size increases video performance.	1M, **8M**, 16M
Boot Display	Use this field to select the type of device you want to use as the display(s) of the system.	**Auto**, CRT, TV, EFP

Integrated Peripherals

```
             Phoenix - AwardBIOS CMOS Setup Utility
                    Integrated Peripherals

  ► OnChip IDE Device          [Press Enter]          Item Help
  ► Onboard Device             [Press Enter]
  ► SuperIO Device             [Press Enter]        Menu Level   ►




↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
           F5:Previous Values              F7: Optimized Defaults
```
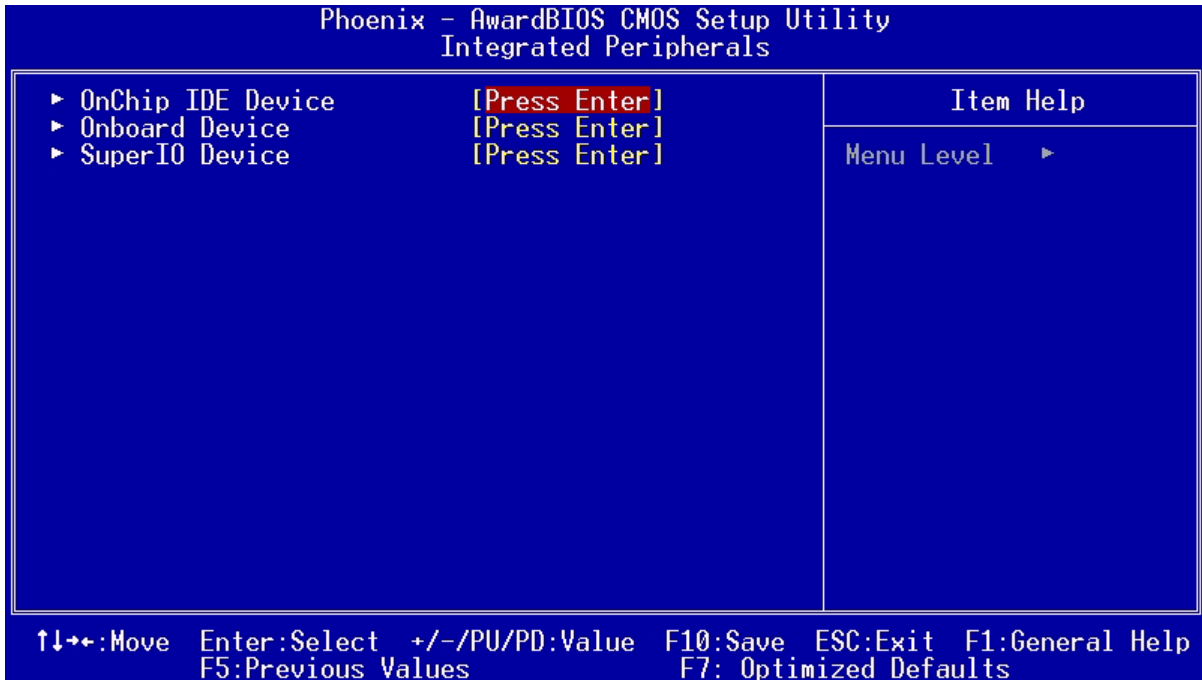
The following table describes each Integrated Peripherals parameter. Settings in boldface are the default and suggested settings.

OnChip IDE Device

Press [Enter] to enter the sub-menu and the following screen appears:

Parameter	Description	Options
IDE HDD Block Mode	Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard drive supports block mode (most new drives do), select [Enabled] for automatic detection of the optimal number of block read/ write per sector the drive can support.	**Enabled** Disabled
IDE DMA Transfer Access	This item allows you to enabled the transfer access of the IDE DMA.	**Enabled** Disabled
On-Chip Primary PCI IDE On-Chip Secondary PCI IDE	The integrated peripherals controller contains an IDE interface with support for two IDE channels. Choose Enabled to activate each channel separately.	**Enabled** Disabled
IDE Primary Master PIO IDE Primary Slave PIO IDE Secondary Master PIO IDE Secondary Slave PIO	The four IDE PIO (Programmed Input/Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 through 4 provide successively increased performance. For example, mode 0 data transfer rate is 3.3MB/s, mode 1 is 5.2 MB/s, mode 2 is 8.3MB/s, mode 3 is 11.1 MB/s and mode 4 is 16.6MB/s. In Auto mode, the system automatically determines the best mode for each device.	**Auto**, mode 1, mode 2, mode 3 and mode 4

Parameter	Description	Options
IDE Primary Master UltraDMA IDE Primary Salve UltraDMA IDE Secondary Master UltraDMA Secondary Slave UltraDMA	Ultra DMA/33 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver. If your hard drive and your system software both support Ultra DMA/33, Ultra DMA/66 and Ultra DMA/100 select Auto to enable BIOS support.	**Auto** Disables
SATA Mode	Select SATA Mode	IDE, **RAID**
On-Chip Serial ATA	This setting is used to specify the SATA controller. If [**Legacy Mode**] is selected, PATA and SATA will be combined. If [**Native Mode**] is selected, PATA and SATA will both be enabled. If [**Auto**] is selected, PATA and SATA will be arranged by BIOS, and you will be able to see the IDE Device status listed in Standard COMS Features.	Disable, Auto, Legacy Mode, **Native Mode**
Serial ATA Port 0/1 Mode	Select a compatible mode for Port 1 and Port 2 from Award setting to the chipset settings: **Primary Master**: Compatible Mode with Serial ATA Port 1 set to Primary Master. **Primary Slave**: Compatible Mode with Serial ATA Port 1 set to Primary Slave. **Secondary Master**: Compatible Mode with Serial ATA Port 1 set to Secondary Master. **Secondary Slave**: Compatible Mode with Serial ATA Port 1 set to Secondary Slave. **Primary Master**: Compatible Mode with only Serial ATA Enabled and Port 1 set to Primary Master. **Secondary Master**: Compatible Mode with only Serial ATA Enabled and Port 1 set to Secondary Master. **SATA0 Master**: Enhance Mode with Port 1 set to Native Mode Master. **SATA1 Master**: Enhance Mode with Port 2 set to Native Mode Master.	Primary Master Primary Slave Secondary Master Secondary Slave Primary Master Secondary Master **SATA0 Master** SATA1 Master

Onboard Device

Press [Enter] to enter the sub-menu and the following screen appears:

Parameter	Description	Options
USB Controller	This setting is used to enable/disable the onboard USB controller.	**Enabled** Disabled
USB 2.0 Controller	Set to Enabled if you need to use any USB 2.0 device in the operating system that does not support or have any USB 2.0 driver installed, such as DOS.	**Enabled** Disabled
USB Keyboard Support	This item allows the BIOS to interact with a USB keyboard or mouse to work with MS-DOS based utilities and non-Windows modes.	**Enabled** Disabled

Parameter	Description	Options
USB Mouse Support	This item lets you enable or disable the USB mouse driver within the onboard BIOS. The keyboard driver simulates legacy mouse command and lets you use a USB mouse during POST or after boot if you do not have a USB driver in the operating system.	**Enabled** Disabled
AC97 Audio	Auto allows the motherboard's BIOS to detect whether you're using any audio device. If so, the onboard audio controller will be enabled. If not, the onboard audio controller will be disabled. If you want to use different controller cards to connect audio connectors, set the field to Disabled.	**Enabled** Disabled
Onboard LAN Control	This setting controls the onboard LAN controller.	**Enabled** Disabled

SuperIO Device

Press [Enter] to enter the sub-menu and the following screen appears:

Parameter	Description	Options
POWER ON Function	This controls how the PS/2 mouse or keyboard can power on the system.	**BUTTON ONLY**, Any KEY, Hotkey F11
Onboard FDC Controller	Select Enabled if your system has a floppy disk controller (FDD) installed on the system board and you wish to use it. If you install add-on FDC or the system has no floppy drive, select Disabled in this field.	**Enabled** Disabled
Onboard Serial Port 1	This option is used to assign the I/O address and interrupt request (IRQ) for onboard serial port 2	Disable, **3F8/IRQ4**, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, Auto
Onboard Serial Port 2	This option is used to assign the I/O address and interrupt request (IRQ) for onboard serial port 2	Disable, 3F8/IRQ4, **2F8/IRQ3**, 3E8/IRQ4, 2E8/IRQ3, Auto
Onboard Parallel Port	This option is used to assign the I/O address and interrupt request (IRQ) for the onboard parallel port.	Disabled, **378/IRQ7**, 278/IRQ5, 3BC/IRQ7
Parallel Port Mode	Enables you to set the data transfer protocol for your parallel port. SPP (Standard Parallel Port), EPP (Enhanced Parallel Port), ECP (Extended Capabilities Port) and ECP+EPP.	SPP, EPP1.9+SPP, ECP, EPP1.9+ECP, **PRINTER**, EPP1.7+SPP, EPP1.7+ECP
ECP Mode Use DMA	When the onboard parallel port is set to ECP mode, the parallel port can use DMA 3 or DMA 1.	**3**, 1
PWRON After PWR-fail	This item specifies whether your system will reboot after a power failure or interrupt occurs. Available settings are: **Off**: Leaves the computer in the power off state. **On**: Leaves the computer in the power on state. **Former-sts**: Restores the system to the status before power failure or interrupt occurred.	**Off**, On, Former-sts

Power Management Setup

```
              Phoenix - AwardBIOS CMOS Setup Utility
                     Power Management Setup

   ACPI Function             [Enabled]        ▲         Item Help
   ACPI Suspend Type         [S3(STR)]
   Run VGABIOS if S3 Resume  [Auto]                 Menu Level    ►
   Power Management          [User Define]
   Video Off Method          [DPMS]
   Video Off In Suspend      [Yes]
   Suspend Type              [Stop Grant]
   MODEM Use IRQ             [3]
   Suspend Mode             [Disabled]
   HDD Power Down           [Disabled]
   Soft-Off by PWR-BTTN     [Delay 4 Sec.]
   CPU THRM-Throttling      [50.0%]
   Wake-Up by PCI PME       [Disabled]
   FAN CONTROL              [Enabled]
   Power On by Ring         [Enabled]
   USB KB Wake-Up From S3   [Disabled]
   Resume by Alarm          [Disabled]
 x  Date(of Month) Alarm        0
 x  Time(hh:mm:ss) Alarm        0 :  0 :  0

   ** Reload Global Timer Events **
   Primary IDE 0            [Disabled]
   Primary IDE 1            [Disabled]
   Secondary IDE 0          [Disabled]
   Secondary IDE 1          [Disabled]
   FDD,COM,LPT Port         [Disabled]
   PCI PIRQ[A-D]#           [Disabled]        ▼

 ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
             F5:Previous Values              F7: Optimized Defaults
```

The Power Management menu lets you configure the system power-management feature. It works only in APM mode.

IMPORTANT: If an ACPI-aware operating system such as Windows 98 or Windows 2000 is installed in ACPI mode, the operating system will use the ACPI interfaces. Then the settings in Power Management page is non-effective.

The following screen shows the Power Management parameters and their default settings:
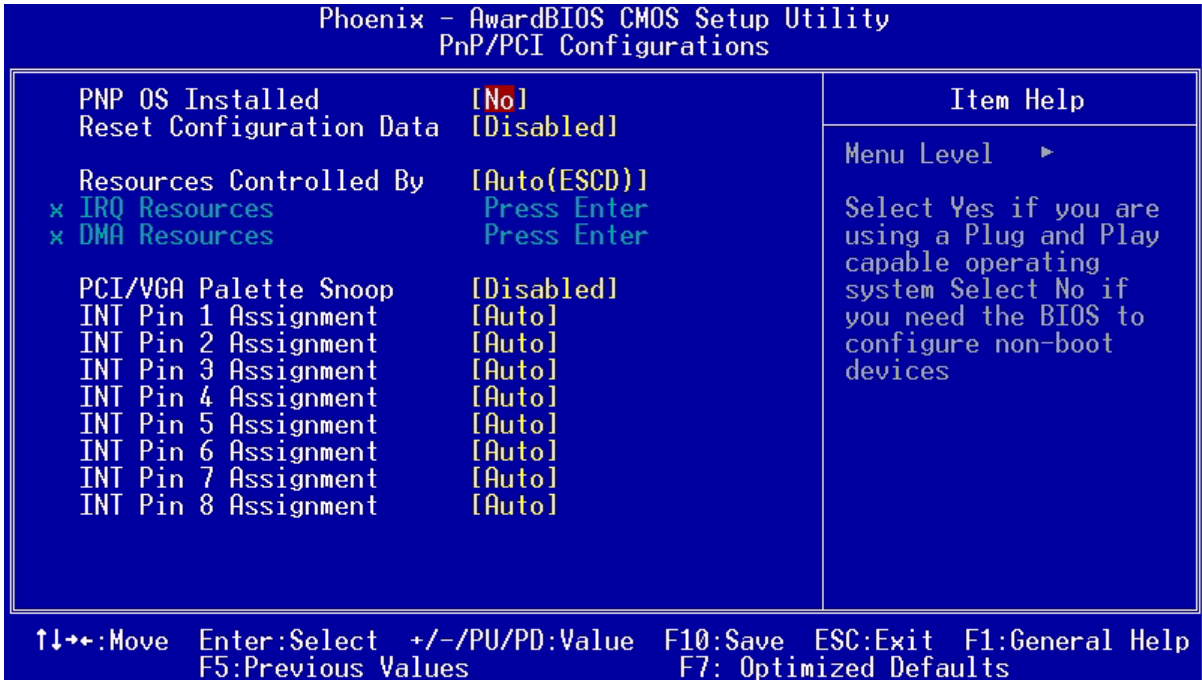
The following table describes the parameters found in this menu.

Parameter	Description	Options
ACPI Function	Enabled/Disable ACPI Function.	**Enabled** Disabled
ACPI Suspend Type	This item specifies the power saving modes for ACPI function. Options are: **S1/POS**: The S1 sleep mode is a low power state. In this state, no system context is lost (CPU or chipset) and hardware maintains all system context. **S3/STR**: The S3 sleep mode is a lower power state where the information of system configuration and open applications/files is saved to main memory that remains powered while most other hardware components turn off to save energy. The information stored in memory will be used to restore the system when a "wake up" event occurs.	S1/POS **S3/STR**
Run VGABIOS if S3 Resume	When ACPI Suspend Mode is set to S3 or S1&S3, users can select the options in this field. Selecting [Yes] allows BIOS to call VGABIOS to initialize the VGA card when system wakes up (resumes) from S3 sleep state. The system resume time is shortened when you disable the function, but system will need an AGP driver to initialize the VGA card. Therefore, if the AGP driver of the card does not support the initialization feature, the display may work abnormally or not function after resuming form S3.	**Auto**, Yes, No
Power Management	This item is used to select the degree (or type) of power saving and is related to these modes: Suspend Mode and HDD Power Down. **Min Saving**: Minimum Power Management. Suspend Mode=1 Hour **Max Saving**: Maximum Power Management. Suspend Mode=1 Min **User Define**: Allows end users to configure each mode separately.	**User Define** Min Saving Max Saving
Video Off Method	This determines the manner in which the monitor is blanked. **V/H SYNC+Blank**: This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer. **Blank Screen**: This option only writes blanks to the video buffer. **DPMS**: Initial display power management signaling.	**DPMS** V/H SYNC+Blank Blank Screen
Video Off In Suspend	This option enables the monitor to be turned off during the suspend mode.	**Yes** No
Suspend Type	This item allows you to select he suspend type for system power management.	**Stop Grant** PwrOn Suspend
MODEM Use IRQ	This determines the IRQ in which the MODEM can use. Activity of the selected IRQ always awakens the system.	**3**, 4, 5, 7, 9, 10, 11, NA

Parameter	Description	Options
Suspend Mode	If system activity is not detected for the length of time specified in this field, all devices except CPU will be shut off.	**Disabled**, 1 Min, 2 Min, 4 Min, 8 Min, 12 Min, 20 Min, 30 Min, 40 Min, 1 Hour
HDD Power Down	If HDD activity is not detected for the length of time specified in this field, the hard disk drive will be powered down while all other devices remain active.	**Disabled** 1 Min through15 Min
Soft-Off by PWR-BTTN	This is a specification of ACPI and supported by hardware. When Delay 4 sec. is selected, the soft power switch on the front panel can be used to control power On, Suspend and Off. If the switch is pressed less than 4 sec. during power On, the system will go into Suspend mode. If the switch is pressed longer than 4 sec, the system will be turned Off. The other setting is Instant-Off, where the soft power switch is only used to control On and Off, there is no need to press 4 sec, and there is no Suspend.	**Delay 4 sec**. Instant-Off
CPU THRM-Throttling	The item allows you to specify the CPU speed (at percentage) to which it will slow down when the CPU reaches the predetermined overheat temperature.	From 12.5% to 87.5% at 12.5% increment
Wake-Up by PCI PME	These fields specify whether the system will be awakened from power saving modes when activity or input signal of the specified hardware peripheral or component is detected.	**Disabled** Enabled
FAN CONTROL	This setting is used to enable/disable the fan speed control function.	**Enabled** Disabled
Power-On by Ring	When Enabled, any fax/ modem activity wakes up the system from suspend mode.	**Enabled** Disabled
USB KB Wake-up from S3	This setting allows you to enter "Any Key" (max. 8 numbers) to wake up the system from S3 state.	**Disabled** Enabled
Resume by Alarm	Use this option to set the date and time for your computer to boot up. Date (of month) Alarm* - Indicate month when system will boot up. Set it to 0 if you want to boot everyday. Time (hh:mm:ss) Alarm* - Indicate the hour, minute and second when system will boot up.	**Disabled** Enabled * Set Resume by Alarm to Enabled, then press ENTER to show the range of Date and Time Alarm.
Primary IDE 0/1 Secondary IDE 0/1 FDD, COM, LPT Port PCI PIRQ[A-D] #	The global timer is the hardware timer that counts down to the power saving modes. If the monitoring of the listed hardware peripherals or components is enabled, the activity of the spec-ified peripherals or components will awaken the system or reload the original count of global timer when they are accessed.	**Disabled** Enabled

NOTE: In ACPI mode: Valid-S5 and S4. In APM mode: Valid- shutdown

PnP/PCI Configurations

```
              Phoenix - AwardBIOS CMOS Setup Utility
                      PnP/PCI Configurations
┌─────────────────────────────────────────────┬──────────────────────┐
│   PNP OS Installed          [No]             │      Item Help       │
│   Reset Configuration Data  [Disabled]       ├──────────────────────┤
│                                              │  Menu Level    ►     │
│   Resources Controlled By   [Auto(ESCD)]     │                      │
│ x IRQ Resources             Press Enter      │  Select Yes if you are│
│ x DMA Resources             Press Enter      │  using a Plug and Play│
│                                              │  capable operating    │
│   PCI/VGA Palette Snoop     [Disabled]       │  system Select No if  │
│   INT Pin 1 Assignment      [Auto]           │  you need the BIOS to │
│   INT Pin 2 Assignment      [Auto]           │  configure non-boot   │
│   INT Pin 3 Assignment      [Auto]           │  devices              │
│   INT Pin 4 Assignment      [Auto]           │                      │
│   INT Pin 5 Assignment      [Auto]           │                      │
│   INT Pin 6 Assignment      [Auto]           │                      │
│   INT Pin 7 Assignment      [Auto]           │                      │
│   INT Pin 8 Assignment      [Auto]           │                      │
│                                              │                      │
│                                              │                      │
├──────────────────────────────────────────────┴──────────────────────┤
│ ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help│
│            F5:Previous Values              F7: Optimized Defaults     │
└──────────────────────────────────────────────────────────────────────┘
```

The table below describes each PnP/PCI configuration parameter. Settings in boldface are the default and suggested settings.

Parameter	Description	Options
PNP OS Installed	When set to [Yes], BIOS will only initialize the PnP cards used for booting (VGA, IDE, SCSI). The rest of the cards will be initialized by the PnP operating system like Windows 98. When set to [No], BIOS will initialize all the PnP cards. So, select [Yes] if your operating system is Plug & Play aware.	**No** Yes
Reset Configuration Data	Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system configuration has caused such a serious conflict that the OS cannot boot.	**Disabled** Enabled
Resources Controlled By	The Award Plug and Play BIOS has the capacity to automatically configure all of the boot and Plug and Play compatible devices. However, this capability means absolutely nothing unless you are using a Plug and Play operating system such as Windows 95/98. If you set this field to "manual" choose specific resources by going into each of the sub menu that follows this field.	**Auto (ESCD)** Manual

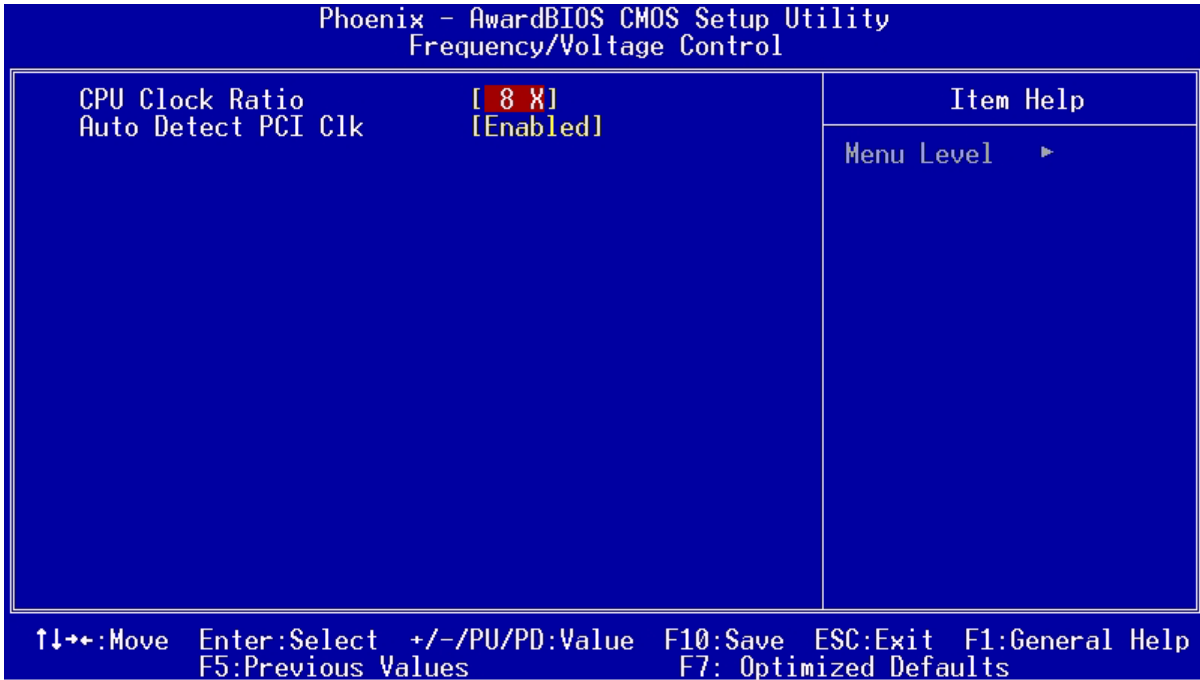| Parameter	Description	Options
IRQ Resources DMA Resources	The items are adjustable only when Resources Controlled By is set to Manual. Press <Enter> and you will enter the sub-menu of the items. Legacy ISA for devices compliant with the original PC AT bus specification, PCI/ISA PnP for devices compliant with the Plug and Play standard whether designed for PCI or ISA bus architecture.	
PCI/VGA Palette Snoop	When set to Enabled, multiple VGA devices operating on different buses can handle data from the CPU on each set of palette registers on every video device. Bit 5 of the command register in the PCI device configuration space is the VGA Palette Snoop bit (0 is disabled). For example, if there are two VGA devices in the computer (one PCI and one ISA) and the: **Disabled**: Data read or written by the CPU is only directed to the PCI VGA device's palette registers. **Enabled**: Data read or written by the CPU is directed to both the PCI VGA device's palette registers and the ISA VGA device's palette registers, permitting the palette registers of both VGA devices to be identical. **NOTE:** Some VGA cards have required settings for this feature. Check your VGA card manual before setting this parameter.	**Disabled** Enabled
INT Pin 1~8 Assignment	The items allow you to assign an IRQ line to INT Pin #1~8 separately. Selecting Auto allows BIOS to determine the appropriate IRQ for each INT pin.	**Auto**, 3, 4, 5, 7, 9, 10, 11, 12, 14, 15

PC Health Status

```
                 Phoenix - AwardBIOS CMOS Setup Utility
                            PC Health Status
┌───────────────────────────────────────────────┬──────────────────────┐
│ Chassis Intrusion Detect  [Disabled]           │      Item Help       │
│ CPU Temperature                                 │                      │
│ Ambient Temperature                             │  Menu Level    ▶     │
│ VCore (From VID)                                │                      │
│ +2.5V                                           │                      │
│ Vccp                                            │                      │
│ +3.3V                                           │                      │
│ +5V                                             │                      │
│ +12V                                            │                      │
│ HVcc                                            │                      │
│ +1.5V                                           │                      │
│ +1.8V                                           │                      │
│ CPU FAN Speed                                   │                      │
│ SYSTEM FAN Speed                                │                      │
│                                                 │                      │
│                                                 │                      │
│                                                 │                      │
└───────────────────────────────────────────────┴──────────────────────┘
 ↑↓→←:Move   Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
            F5:Previous Values              F7: Optimized Defaults
```

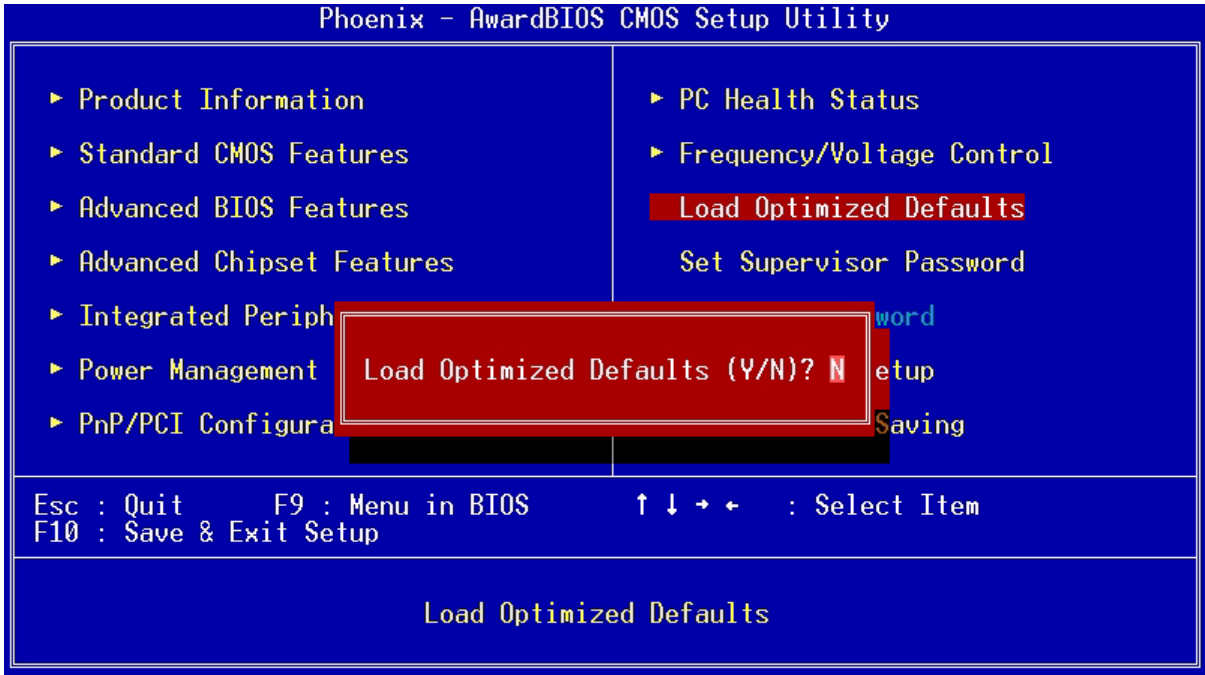| Parameter	Description	Options
Chassis Intrusion Detect	The field enables or disables the feature of recording the chassis intrusion status and issuing a warning message if the chassis is once opened. To clear the warning message, set the field to Reset. The setting of the field will automatically return to Enabled later.	**Disabled** Enabled
CPU Temperature, Ambient Temperature, VCore (From VID), +2.5V Vccp, +3.3V, +5V, +12V, HVcc, +1.5V, +1.8V, CPU FAN Speed, System FAN Speed	These items display the current status of all of the monitored hardware devices/components such as CPU voltages, temperatures and all fans' speeds.	

Frequency Control

```
                 Phoenix - AwardBIOS CMOS Setup Utility
                        Frequency/Voltage Control
 ┌──────────────────────────────────────────────┬──────────────────────┐
 │  CPU Clock Ratio          [ 8 X]             │      Item Help       │
 │  Auto Detect PCI Clk      [Enabled]          ├──────────────────────┤
 │                                              │  Menu Level   ►      │
 │                                              │                      │
 │                                              │                      │
 │                                              │                      │
 │                                              │                      │
 │                                              │                      │
 │                                              │                      │
 │                                              │                      │
 │                                              │                      │
 │                                              │                      │
 └──────────────────────────────────────────────┴──────────────────────┘
 ↑↓→←:Move   Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
            F5:Previous Values            F7: Optimized Defaults
```

The following table describes the parameters found in this menu.

Parameter	Description	Option
CPU Clock Ratio	Core Clock Frequency to System Bus Ratio (RO)	
Auto Detect PCI CLK	This option allows you to enable/disable the feature of auto detecting the clock frequency of the installed PCI bus.	**Enabled** Disabled

Load Optimized Settings

You need to reload the BIOS default settings every time you make changes to your system hardware configuration (such as memory size, CPU type, hard disk type, etc.); otherwise, BIOS will keep the previous CMOS settings. Selecting this option displays the following dialog box:

```
                Phoenix - AwardBIOS CMOS Setup Utility

   ► Product Information          ► PC Health Status

   ► Standard CMOS Features        ► Frequency/Voltage Control

   ► Advanced BIOS Features          Load Optimized Defaults

   ► Advanced Chipset Features       Set Supervisor Password

   ► Integrated Periph                              word

   ► Power Management      Load Optimized Defaults (Y/N)? N   etup

   ► PnP/PCI Configura                             Saving

   Esc : Quit       F9 : Menu in BIOS       ↑ ↓ → ←   : Select Item
   F10 : Save & Exit Setup

                        Load Optimized Defaults
```

Choosing **Yes** enables BIOS to automatically detect the hardware changes that you have made in your system. This option also allows you to restore the default settings.

Choosing **No** returns you to the main menu without loading the default settings.

System Security

The Setup program has a number of security features to prevent unauthorized access to the system and its data.

Set Supervisor Password

To set a password:

1. At the prompt, type your password. Your password can be up to 8 alphanumeric characters. When you type the characters, they appear as asterisks on the password screen box.

2. After typing the password, press `ENTER` .

3. At the next prompt, re-type your password and press `ENTER` again to confirm the new password. After the password entry, the screen automatically reverts to the main screen.

```
              Phoenix - AwardBIOS CMOS Setup Utility

   ► Product Information              ► PC Health Status

   ► Standard CMOS Features           ► Frequency/Voltage Control

   ► Advanced BIOS Features             Load Optimized Defaults

   ► Advanced Chipset Features          Set Supervisor Password

   ► Integrated Peripherals          x Set User Password

   ► Power Management Se┌──────────────────────────┐t Setup
                        │  Enter Password:         │
   ► PnP/PCI Configurati└──────────────────────────┘ut Saving

   Esc : Quit      F9 : Menu in BIOS      ↑ ↓ → ←   : Select Item
   F10 : Save & Exit Setup

                    Change/Set/Disable Password
```

To disable the password, press `ENTER` when prompted to enter the password. The screen displays a message confirming that the password has been disabled.

Set User Password

IMPORTANT: To show the "Set User Password":

1. Choose "Set Supervisor Password" and press ENTER .
2. Type the password and then press ENTER .
3. Confirm the password, and then press ENTER .
4. The screen as below with "Set User Password" enabled will be shown.

To set a password:

1. At the prompt, type your password. Your password can be up to 8 alphanumeric characters. When you type the characters, they appear as asterisks on the password screen box.
2. After typing the password, press ENTER .
3. At the next prompt, re-type your password and press ENTER again to confirm the new password. After the password entry, the screen automatically reverts to the main screen.

```
                Phoenix - AwardBIOS CMOS Setup Utility

  ► Product Information           ► PC Health Status

  ► Standard CMOS Features         ► Frequency/Voltage Control

  ► Advanced BIOS Features          Load Optimized Defaults

  ► Advanced Chipset Features       Set Supervisor Password

  ► Integrated Peripherals          Set User Password

  ► Power Management Se                            t Setup
                        Enter Password:
  ► PnP/PCI Configurati                           ut Saving


  Esc : Quit     F9 : Menu in BIOS      ↑ ↓ → ←   : Select Item
  F10 : Save & Exit Setup

                Change/Set/Disable Password
```

To disable the password, press ENTER when prompted to enter the password. The screen displays a message confirming that the password has been disabled.

Bypassing the Password

If you forgot your password, you can bypass the password security feature through hardware configuration.

RTC Battery

Follow these steps to bypass the password:

1. Turn off and unplug the system.
2. Open the system housing. Take off battery and short it.
3. Place on RTC battery, reboot the system and enter setup menu, to load default setting.

Clear CMOS

Follow these steps to bypass the password:

1. Reset CMOS, by adjusting JBAT1 to **2-3**

2. Reboot the system.

3. Adjust the JP2 back to **1-2**

NOTE: Please refer to the following

JBAT1: Clear CMOS

JP2	CMOS Check
1-2	Normal
2-3	Clear CMOS

Save & Exit Setup

Highlight this item and press <Enter> to save the changes that you have made in the Setup Utility and exit the Setup Utility.

```
           Phoenix - AwardBIOS CMOS Setup Utility

  ► Product Information          ► PC Health Status

  ► Standard CMOS Features       ► Frequency/Voltage Control

  ► Advanced BIOS Features          Load Optimized Defaults

  ► Advanced Chipset Features       Set Supervisor Password

  ► Integrated Periph┌──────────────────────────────┐sword

  ► Power Management  │ SAVE to CMOS and EXIT (Y/N)? Y│ Setup

  ► PnP/PCI Configura└──────────────────────────────┘Saving

  Esc : Quit       F9 : Menu in BIOS        ↑ ↓ → ←   : Select Item
  F10 : Save & Exit Setup

                      Save Data to CMOS
```
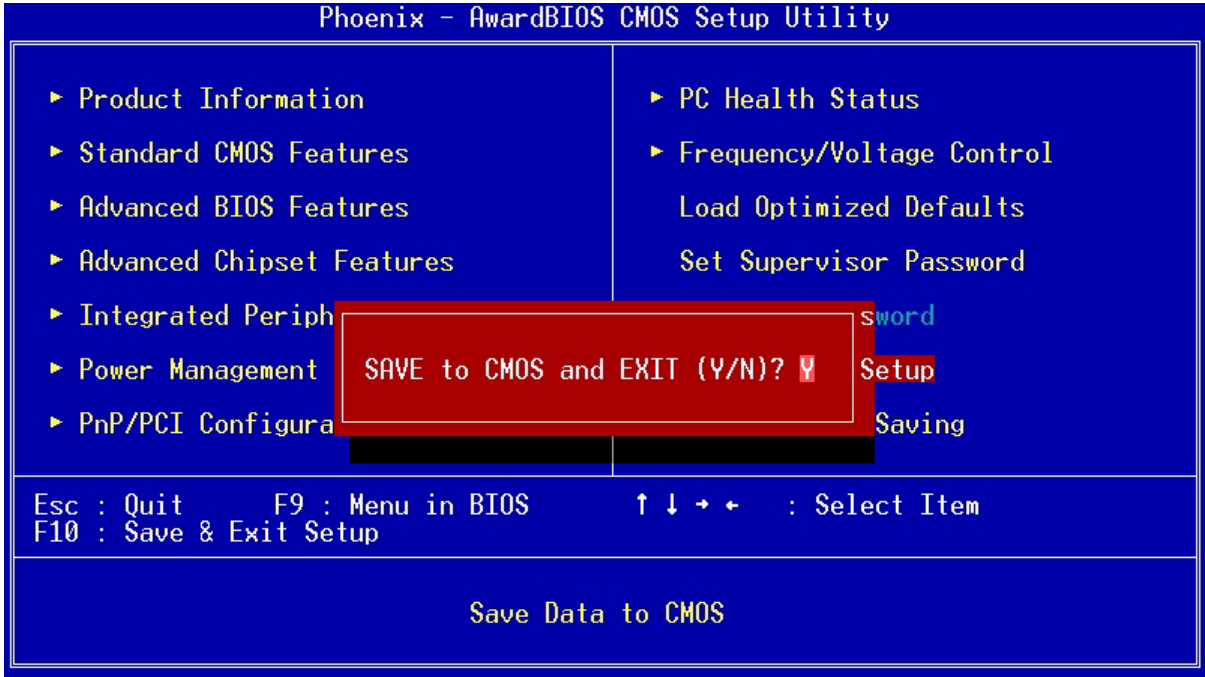
When the Save and Exit dialog box appears, press <Y> to save and exit, or press <N> to return to the main menu.

Exit Without Saving

Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility and exit the Setup Utility.

```
             Phoenix - AwardBIOS CMOS Setup Utility
  ┌──────────────────────────────────────────────────────────────────┐
  │  ▶ Product Information          ▶ PC Health Status                │
  │                                                                    │
  │  ▶ Standard CMOS Features       ▶ Frequency/Voltage Control       │
  │                                                                    │
  │  ▶ Advanced BIOS Features          Load Optimized Defaults        │
  │                                                                    │
  │  ▶ Advanced Chipset Features       Set Supervisor Password        │
  │                                                                    │
  │  ▶ Integrated Periphe┌──────────────────────────┐ssword           │
  │                      │                          │                  │
  │  ▶ Power Management S │ Quit Without Saving (Y/N)? N │ Setup        │
  │                      │                          │                  │
  │  ▶ PnP/PCI Configurat└──────────────────────────┘t Saving         │
  ├──────────────────────────────────────────────────────────────────┤
  │  Esc : Quit      F9 : Menu in BIOS       ↑ ↓ → ←   : Select Item   │
  │  F10 : Save & Exit Setup                                           │
  ├──────────────────────────────────────────────────────────────────┤
  │                        Abandon all Data                           │
  └──────────────────────────────────────────────────────────────────┘
```
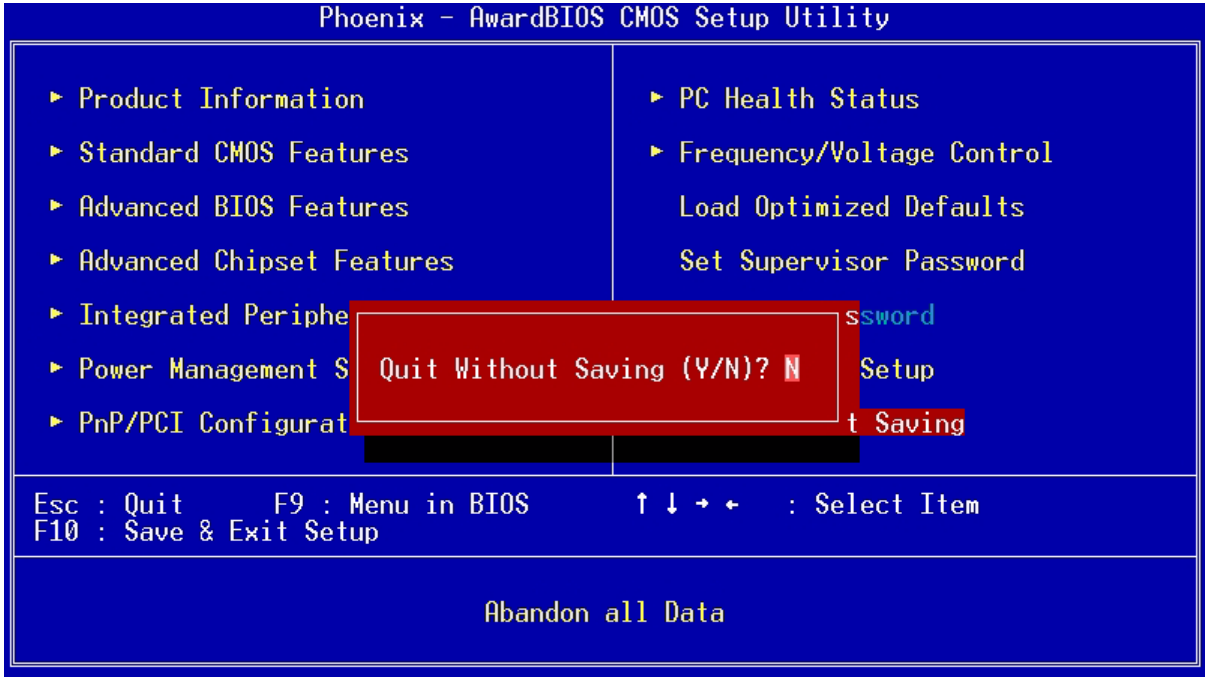
When the Exit Without Saving dialog box appears, press <Y> to discard changes and exit, or press <N> to return to the main menu.

NOTE: If you have made settings that you do not want to save, use the "Exit Without Saving" item and press <Y> to discard any changes you have made.

Intel Serial ATA RAID Introduction

The southbridge ICH5R provides a hybrid solution that combines two independent SATA ports for support of up to two Serial ATA (Serial ATA RAID) drives. Serial ATA (SATA) is the latest generation of the ATA interface. SATA hard drives deliver blistering transfer speeds of up to 150MB/sec. Serial ATA uses long, thin cables, making it easier to connect your drive and improving the airflow inside your PC.

1. Supports 150 MB/s transfers with CRC error checking

2. Data handling optimizations including tagged command queuing, elevator seek and packet chain command.

Following are the Parallel ATA (P-ATA) and Serial ATA (S-ATA) device configurations supported by Intel ICH5R.

Introduction

Following are the Parallel ATA (P-ATA) and Serial ATA (S-ATA) device configurations supported by Intel ICH5R.

ATA Operate Mode

There are two modes to select: Legacy mode and Native mode.

Legacy Mode:

❑   In this mode, system BIOS just assign the traditional 14 and 15 IRQs to use for HDD.

❑   Older OSs that do not support switch to Native Mode (DOS, Win2K, Win98/ME...) should set SATA and PATA to Legacy Mode.

❑   Maximum 4 ATA devices to connect.

❑   Combine mode and Non-Combine mode.

   (1)   Non-Combined Mode: P-ATA devices only. Maximum of 4 devices.
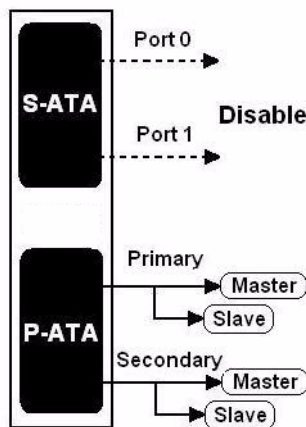
   (2)   Non-Combined Mode: S-ATA devices only. Maximum of 2 devices.
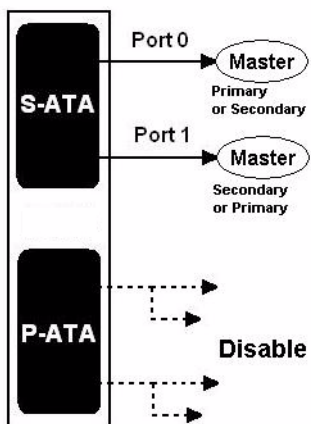
(3) Combined Mode: S-ATA devices and P-ATA devices. Maximum of 2 devices each, thus total 4 devices at maximum.
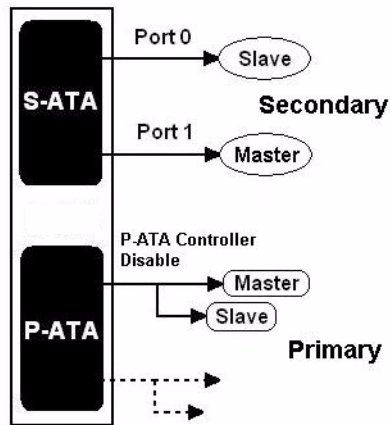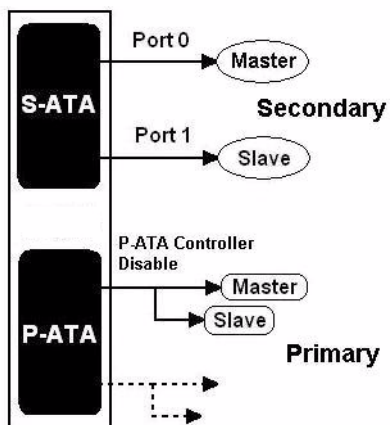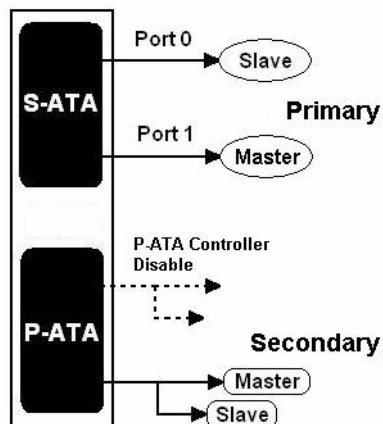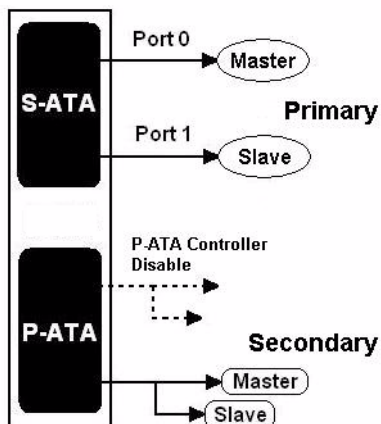
Native Mode:

- ❑ In this mode, system BIOS will search all available IRQs to use for HDD.
- ❑ New OS that support switch to Native Mode (WinXP, Windows .NET Server) can set SATA and PATA to Native Mode.
- ❑ Comprehend both Legacy and/or Native Modes.
- ❑ Maximum 6 ATA devices to connect (4 for P-ATA & 2 for S-ATA).
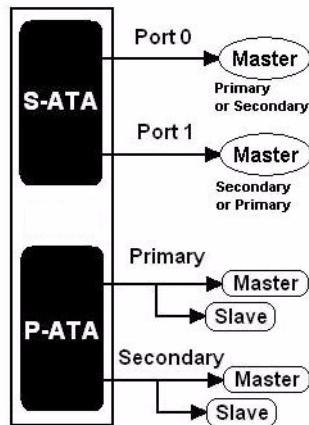
NOTE: Proper support: BIOS provides a BIOS setup option for Native Mode or Legacy Mode user selection.

RAID BIOS Configuration

The Intel RAID Option ROM should be integrated with the system BIOS on all motherboards with a supported Intel chipset. Please use `CTRL` + <I> keys to enter the "Intel(R) RAID for Serial ATA" status screen, which should appear early in system boot-up, during the POST (Power-On Self Test).

Using the Intel RAID Option ROM

1. Creating, Deleting and Resetting RAID Volumes:

The Serial ATA RAID volume may be configured using the RAID Configuration utility stored within the Intel RAID Option ROM. During the Power-On Self Test (POST), the following message will appear for a few seconds (**Note:** The "Driver Model", "Serial #" and "Size" in the following example might be different from your system.)

```
Intel(R) RAID for Serial ATA - RAID BIOS v3.0.0.2307
Copyright(C) 2003 Intel Corporation.  All Rights Reserved.


RAID Volumes:
None defined.


Non-RAID Disks:
Port Drive Model        Serial #            Size      Status      Bootable
  0    ST3120023AS      3KA0J1ZJ          111.7GB    Normal        Yes

  1    ST3120023AS      3KA0H0M0          111.7GB    Normal        Yes
Press <CTRL-I> to enter Configuration Utility…
```

After the above message shows, press `CTRL` and <I> keys simultaneously to enter the RAID Configuration Utility.

2. Creating, Deleting and Resetting RAID Volumes:

```
          Intel(R) RAID for Serial ATA - RAID Configuration Utility
      Copyright(C) 2003 Intel Corporation.  All Rights Reserved. v3.0.0.2307
================================[ MAIN MENU ]================================

                    1.    Create RAID Volume
                    2.    Delete RAID Volume
                    3.    Reset Disks to Non-RAID
                    4.    Exit


=========================[ DISK/VOLUME INFORMATION ]=========================

    RAID Volumes:
    None defined.

    Non-RAID Disks:
    Port Drive Model     Serial #          Size       Status      Bootable
       0 ST3120023AS     3KA0J1ZJ        111.7GB     Normal        Yes
       1 ST3120023AS     3KA0H0M0        111.7GB     Normal        Yes



        [↑↓]-Select             [ESC]-Exit            [ENTER]-Select Menu
```

(1) Create RAID Volume:

Select this option and press ⌷ENTER⌷ . The following screen appears:

```
       Intel(R) RAID for Serial ATA - RAID Configuration Utility
   Copyright(C) 2003 Intel Corporation.  All Rights Reserved. v3.0.0.2307
  ════════════════════════════[ CREATE ARRAY MENU ]══════════════════════════

                    Name:   RAID Volume1
               Strip Size:  128KB
               RAID Level:  RAID0(Striping)
                 Capacity:  223.5GB

                           Create Volume


  ════════════════════════════════[ HELP ]═══════════════════════════════════




       Enter a string between 1 and 16 characters in length that can be used
       to uniquely identify the RAID volume. This name is case sensitive and
                      can not contain special characters.




       [↑↓] Change       [TAB]-Next      [ESC]-Previous Menu      [ENTER]-Select
```

Specify a RAID Volume name and then press the ⌷◄⌷ or ⌷ENTER⌷ key to go to the next field.

```
       Intel(R) RAID for Serial ATA - RAID Configuration Utility
   Copyright(C) 2003 Intel Corporation.  All Rights Reserved. v3.0.0.2307
  ════════════════════════════[ CREATE ARRAY MENU ]══════════════════════════

                    Name:   RAID Volume1
               Strip Size:  128KB
               RAID Level:  RAID0(Striping)
                 Capacity:  223.5GB

                           Create Volume


  ════════════════════════════════[ HELP ]═══════════════════════════════════


          Choose the strip value best suited to your RAID usage model.

                      The following are typical values.

          16KB  - Best for sequential transfers
          64KB  - Good general purpose strip size
          128KB - Best performance for most desktops and workstations




       [↑↓] Change       [TAB]-Next      [ESC]-Previous Menu      [ENTER]-Select
```

Select the strip value for the RAID 0/1 array by scrolling through the available values by using the ⌷↑⌷ or ⌷↓⌷ keys and pressing the ⌷ENTER⌷ key to select and advance to the next field.

The available values range from 4KB to 128 KB in power of 2 increments. The strip value should be chosen based on the planned drive usage. Here are some suggested selections:

16 KB - Best for sequential transfers

64 KB - Good general purpose strip size

128 KB - Best performance for most desktops and workstations. The default value.

NOTE: RAID 1 can not select **Strip Size**.
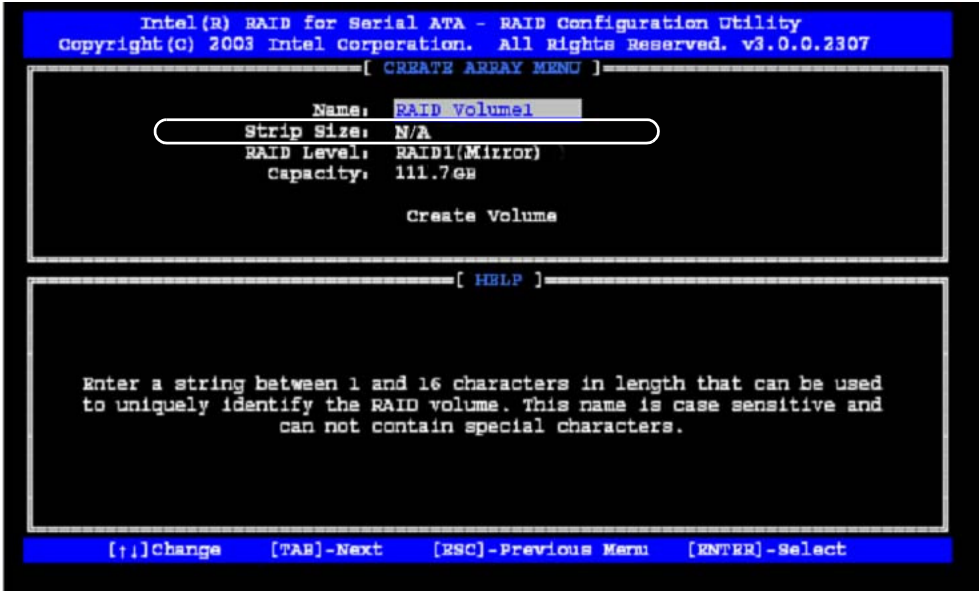
From the Strip size, press the [⏎] or ENTER key to advance to the **Create Volume** prompt. The window will appear as follows:
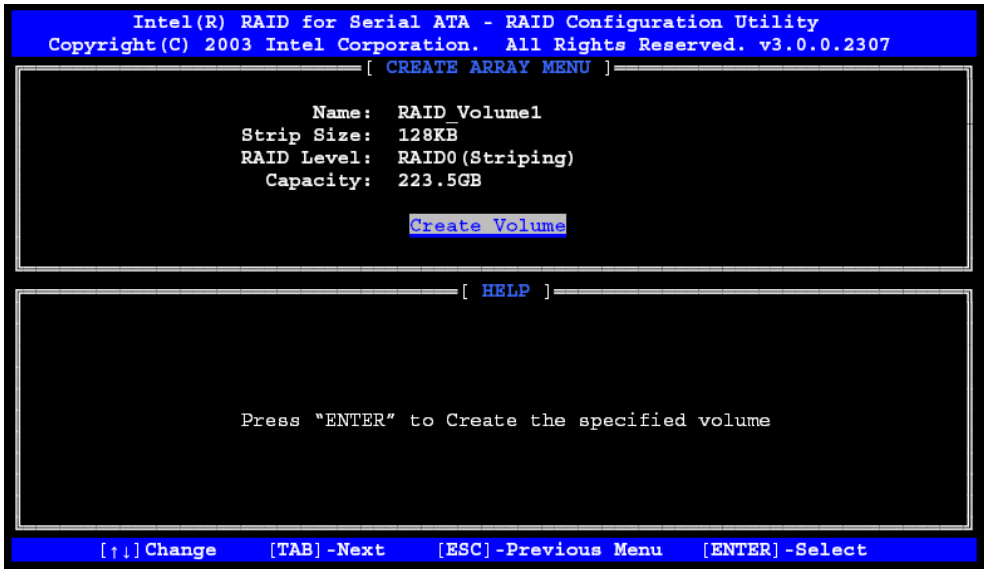
Then Press ENTER to create the specified volume and the following prompt will show:

```
          Intel(R) RAID for Serial ATA - RAID Configuration Utility
       Copyright(C) 2003 Intel Corporation.  All Rights Reserved. v3.0.0.2307
   ══════════════════════════════[ CREATE ARRAY MENU ]═══════════════════════════

                        Name:   RAID_Volume1
                   Strip Size:   128KB
                   RAID Level:   RAID0(Striping)
                     Capacity:   223.5GB

                              Create Volume

   ┌──────────────────────────────────────────────────────────────────────┐
   │                                                                        │
   │      Are you sure you want to create this RAID volume (Y/N)            │
   │                                                                        │
   └──────────────────────────────────────────────────────────────────────┘

                   Press "ENTER" to Create the specified volume



   ───────────────────────────────────────────────────────────────────────────────
      [↑↓]Change      [TAB]-Next      [ESC]-Previous Menu      [ENTER]-Select
```

Press <Y> to confirm the selection or press <N> to create the RAID volume again.

Then you will return to the main menu with an updated status as follows:


```
          Intel(R) RAID for Serial ATA - RAID Configuration Utility
       Copyright(C) 2003 Intel Corporation.  All Rights Reserved. v3.0.0.2307
   ═══════════════════════════════════[ MAIN MENU ]══════════════════════════════

                      1.   Create RAID Volume
                      2.   Delete RAID Volume
                      3.   Reset Disks to Non-RAID
                      4.   Exit


   ════════════════════════════[ DISK/VOLUME INFORMATION ]═══════════════════════

      RAID Volumes:
      ID Name              Level            Strip    Size       Status       Bootable
       0 RAID_Volume1      RAID0(Stripe)    128KB    223.5GB    Normal       Yes
         ├ ST3120023AS     3KA0J1ZJ         Port0    111.7GB    Normal
         └ ST3120023AS     3KA0H0M0         Port1    111.7GB    Normal

      Non-RAID Disks:
      None defined.


   ───────────────────────────────────────────────────────────────────────────────
          [↑↓]-Select              [ESC]-Exit              [ENTER]-Select Menu
```


Scroll to option 4 Exit and press ENTER to exit the RAID Configuration utility. The following prompt
appears:
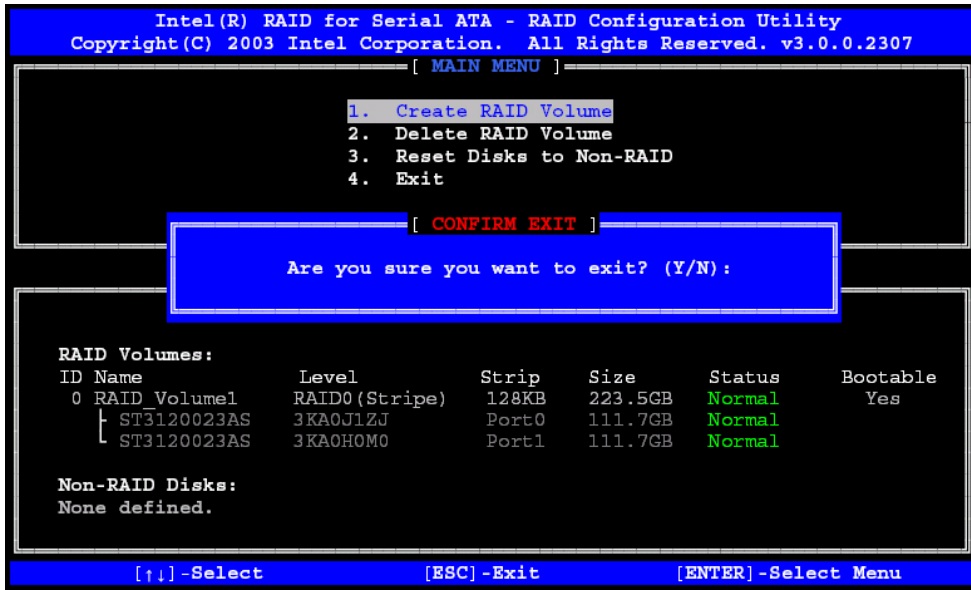
Click <Y> to confirm the exit.

(2) Delete RAID Volume:

Here you can delete the RAID volume, but please be noted that all data on RAID drives will be lost.

NOTE: If your system currently boots to RAID and you delete the RAID volume in the Intel RAID Option ROM, your system will become unbootable.

Select option 2 Delete RAID Volume from the main menu window and press ENTER key to select a RAID volume for deletion. The following window will appear:
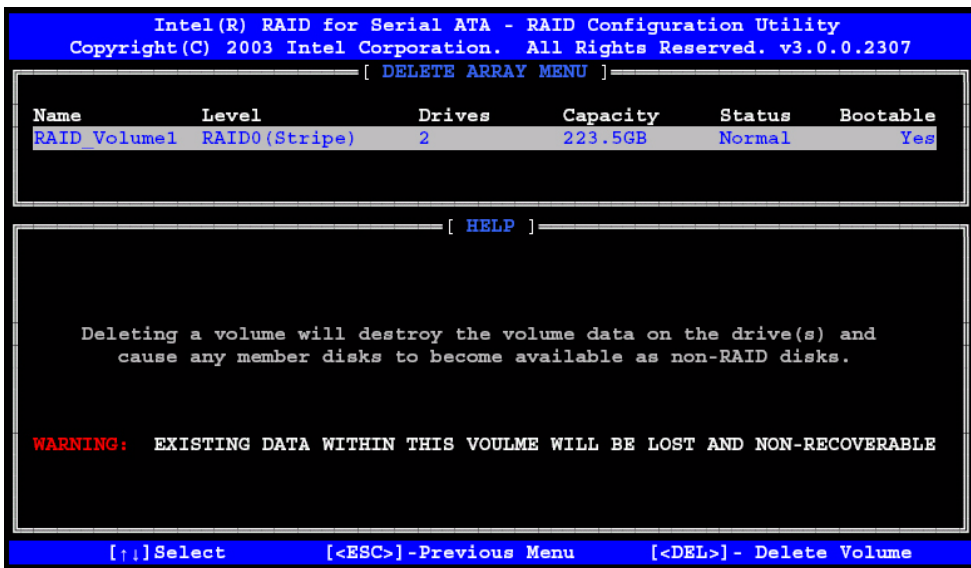
Select the volume and press ⬚DEL⬚ key to delete the RAID volume. The following prompt appears:

```
            Intel(R) RAID for Serial ATA - RAID Configuration Utility
       Copyright(C) 2003 Intel Corporation.  All Rights Reserved. v3.0.0.2307
                       ══════[ DELETE ARRAY MENU ]══════
                  ══════[ VOLUME DELETE VERIFICATION ]══════
      Na                                                                        e
      RA           Are you sure you want to delete this volume?                 s
                     ALL DATA IN THE VOLUME WILL BE LOST!!

             Are you sure you want to delete volume "RAID_Volume1"? (Y/N)


                              ══════[ HELP ]══════



          Deleting a volume will destroy the volume data on the drive(s) and
             cause any member disks to become available as non-RAID disks.



     WARNING:  EXISTING DATA WITHIN THIS VOULME WILL BE LOST AND NON-RECOVERABLE


         [↑↓]Select          [<ESC>]-Previous Menu      [<DEL>]- Delete Volume
```

Press <Y> key to accept the volume deletion.

(3) Reset Disks to Non-RAID:

Select option 3 Reset Disks to Non-RAID and press ⬚ENTER⬚ to delete the RAID volume and remove any RAID structures from the drives. The following screen appears:

```
            Intel(R) RAID for Serial ATA - RAID Configuration Utility
       Copyright(C) 2003 Intel Corporation.  All Rights Reserved. v3.0.0.2307
                          ══════[ MAIN MENU ]══════
                      ══════[ RESET ALL RAID DATA ]══════
          Resetting all RAID data will remove any internal RAID structures
          from all RAID disks, including disks with working volumes. These
          structures are used to maintain the RAID volumes. By removing
          these structures, the drive will revert back to a Non-RAID disk
          that can then be used or reallocated to a new RAID volume.

          WARNING: Selecting "Yes" will cause all data on any RAID disk
                   (RAID Volume or Other RAID Disk) to be lost.

             Are you sure you want to reset all RAID data (Y/N):
                                                                          le

        └ ST3120023AS    3KA0H0M0       Port1    111.7GB    Normal

     Non-RAID Disks:
     None defined.

         [↑↓]-Select          [ESC]-Exit          [ENTER]-Select Menu
```

Press <Y> key to accept the selection.

NOTE: You will lost all data on the RAID drives and any internal RAID structures when you perform this operation. This operation may cause some issues such as incompatible RAID configuration or a failed volume or failed disk.

RAID 0

RAID 0 uses an algorithm to break files into smaller files of the user defined size called the stripe size. Once a file is broken down into these stripes, each drive in the array receives one or more of these fragments. For example, if there are two drives in a RAID 0 array with a 64KB stripe size and the RAID controller gets a command to write a single 128KB file, the file is broken down into two 64KB stripes. Next, one of the two stripes is sent to disk 1 and the other to disk 2 simultaneously This completes the write process.

Naturally, this decreases the time required to write a file since more than one disk is working to store the information. In our example above the time associated with writing our 128KB file turns out to be the time required to write a single 64KB file, since this is what is what occurs simultaneously on both disks in the array.

The speed of reading a file back is also increased with a sufficiently large file. Let's use our 128KB file on a two disk RAID 0 array with a 64KB stripe size for example again. After the data is stored on both drives in the array, it can be read back by reading the two 64KB files from each drive at the same time. Thus, once again, the time required to read back our 128KB file is actually only the time required to read a single 64KB file.

In some situations, when a file is smaller than the stripe, the file is not broken up and instead is written to the array as is. This results in no speed improvement over a non RAID 0 setup because the drives on the array are not working together when reading or writing.

At the same time, an extremely small stripe size makes a drive do more work than it can handle and can significantly slow down RAID 0 performance as well. For example, if we had a 1KB stripe size and a 128KB file, each drive would have to be written to 64 times to store 64 different 1KB files. This creates a bottleneck as the drive attempts to read or write a large number of times for a single file.

As we mentioned before, RAID 0 has no fault tolerance, meaning that if one drive in the array fails, the whole array is shot. There is no way to rebuild or repair the information stored on a RAID 0 array. This makes a RAID 0 is setup the most susceptible to failure RAID type, a fact that usually keeps users with sensitive data from choosing RAID 0 as their RAID setup.

At the same time, however, RAID 0 is the fastest of all RAID setups. Since there is no overhead required to store extra information for fault tolerance, the speed of RAID 0 can theoretically perform 2 times the speed of a single drive when there are 2 drives in the array. Adding more drives only increases this theoretical performance amount, so if you have a 6 drive RAID 0 array, performance could be as large as 6 times the performance of a single drive.

Using different hard drives in a RAID 0 setup can result in two problems. First off, the size of the RAID array will only be the size of the smallest drive multiplied by the number of drives in the array. This is because the controller always writes to all the drives in the array and once one is filled no more information can be stored on the array. Secondly, the speed of a RAID 0 setup is only as fast as the slowest drive in the array. Because chunks of data are being written to the disks at the same time, if one drive is slower than the rest the others must sit and wait for the slowest drive to finish. It is for these reasons that it is suggested that identical drives be used on a RAID 0 setup.

What RAID 0 boils down to is speed and little more. The fact of the matter is that RAID 0 is not redundant at all, just fast. But for many users, this is all that is important.

RAID 1

RAID 1 works by writing identical sets of information to two drives in an array. When the controller is sent a 64KB file to be written to a two disk RAID 1 array, the controller sends identical copies of this 64KB file to both disks in the array. Reads are the same as on a single drive: the controller requests the file from one of the two drives.

The special feature of RAID 1 is its fault tolerance. If either of the two drives in the array fails, no data is lost. If/ when a drive fails, the RAID controller simply uses the information off of the drive that is still available. When a new drive is added to the array to fix the failed one, a mirroring occurs in which the data from the good drive is written to the new drive to recreate the array again.

As one could suspect, RAID 1 offers very little in terms of performance. When requesting data from a drive, some RAID controllers take information from the drive that is not busy or closer to the desired information, theoretically resulting in faster data access. When writing, on the other hand, there is some overhead when compared to a single drive as the controller must duplicate the file it is sent and then pass it along to the drives.

In a RAID 1 setup, identical drives are best in order to prevent lost space. Since the same data is being written to two drives, the size of the RAID 1 array is equal to the size of the smallest drive in the array. For example, if a 20GB drive and a 30GB drive are used in a RAID 1 setup, the array would only be 20GB with the 10 extra gigabytes on the 30GB drive going to waste. The performance difference between two drives is also an issue here, since a faster drive would have to wait for a slower drive before it could write more information.

RAID 1 is a good solution for those looking for security over speed. Although not the slowest of the common RAID types, RAID 1 can be slower than a single drive in some cases (more on that in the benchmarks). What RAID 1 does provide is a very safe environment, where failure of a single drive does not equate to any down time.

Machine Disassembly and Replacement

This chapter contains step-by-step procedures on how to disassemble the Veriton 7600GTR/GT/V, 5600GT/V and 3600GT/V desktop computer for maintenance and troubleshooting.

To disassemble the computer, you need the following tools:

❑ Wrist grounding strap and conductive mat for preventing electrostatic discharge

❑ Flat-bladed screwdriver

❑ Phillips screwdriver

❑ Hexagonal screwdriver

❑ Plastic stick

NOTE: The screws for the different components vary in size. During the disassembly process, group the screws with the corresponding components to avoid mismatches when putting back the components.

General Information

Before You Begin

Before proceeding with the disassembly procedure, make sure that you do the following:

1. Turn off the power to the system and all peripherals.
2. Unplug the AC adapter and all power and signal cables from the system.

Disassembly Procedure Flowchart

The flowchart on the succeeding page gives you a graphical representation on the entire disassembly sequence and instructs you on the components that need to be removed during servicing.

Veriton 7600GTR/GT/V
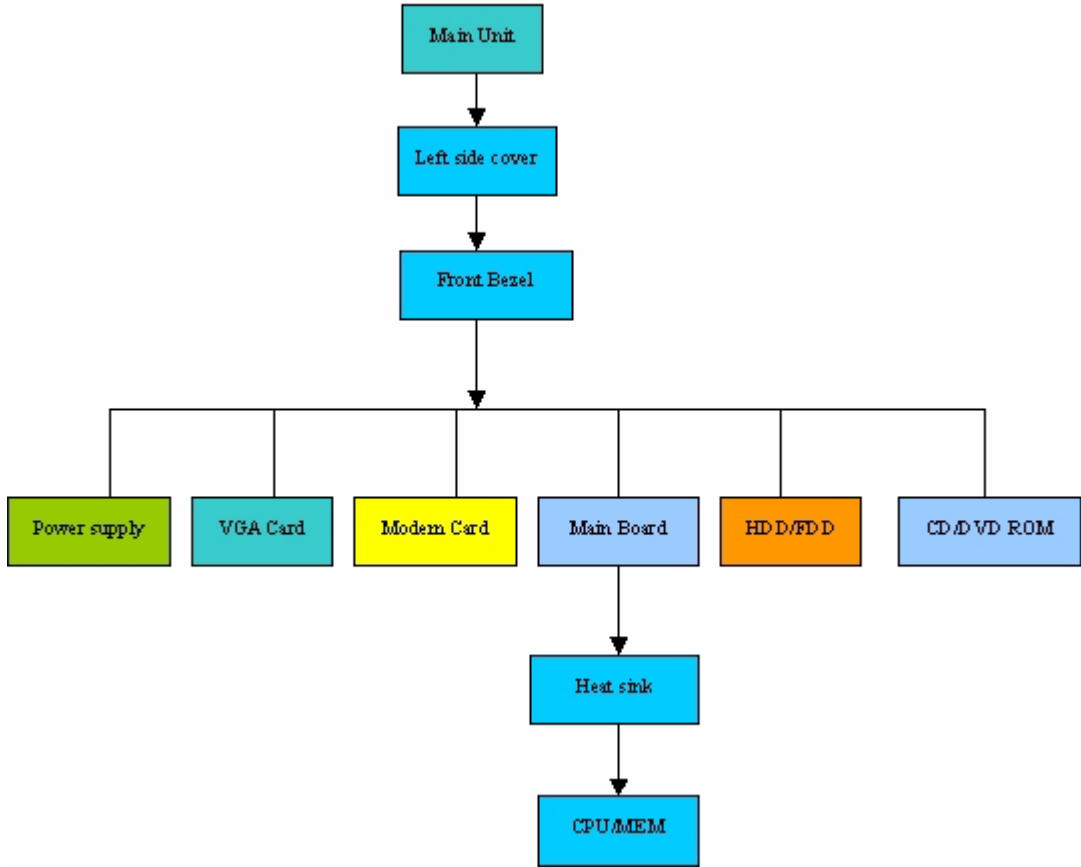
Veriton 5600GT/V

Veriton 3600GT/V
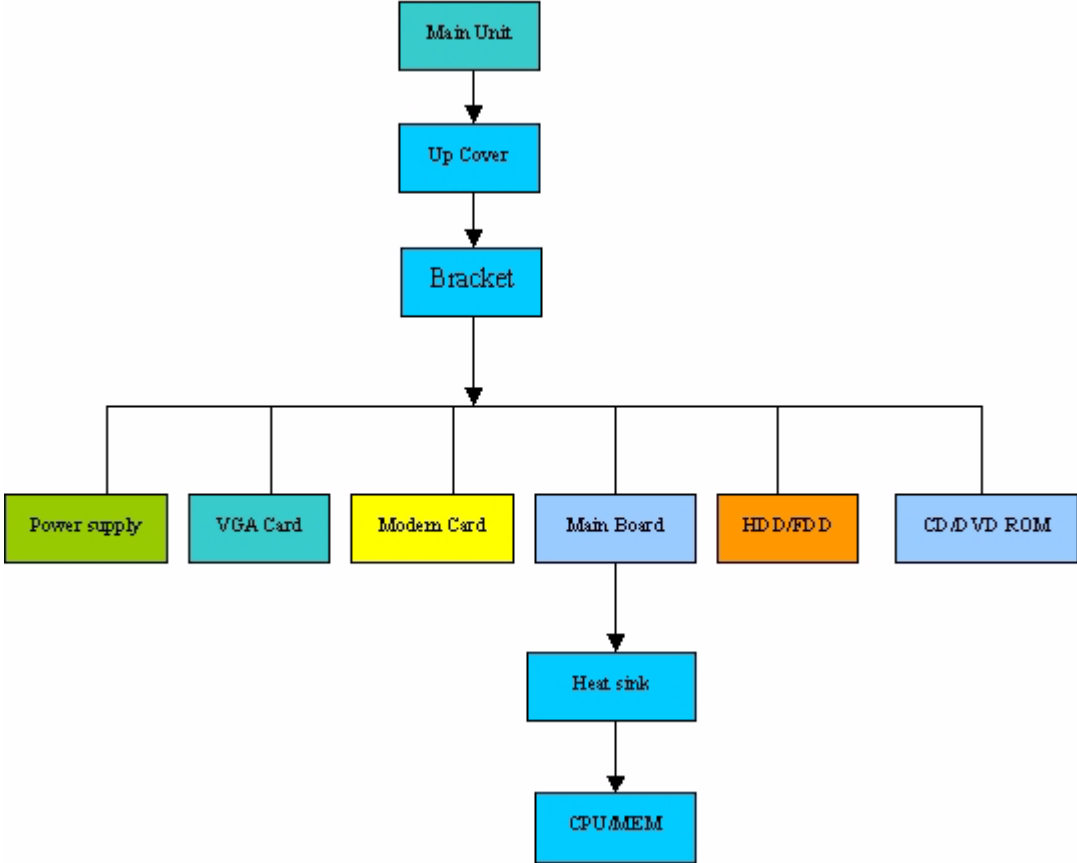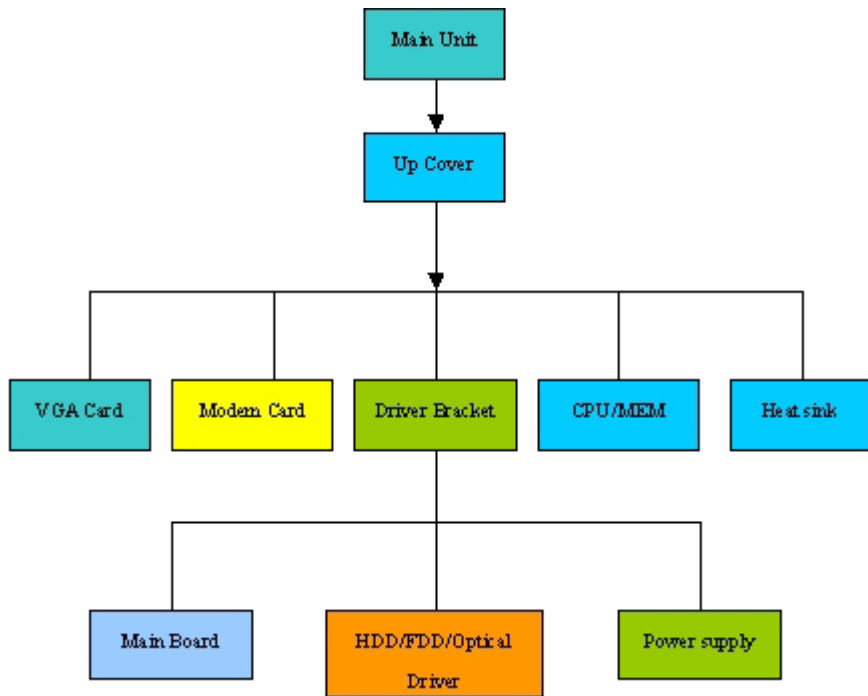
Disassembling the Veriton 7600GTR/GT/V

Opening the Housing

This section tells you how to open the housing cover when you need to install additional components inside the system unit.

CAUTION: Before you proceed, make sure that you have turned off the system and all peripherals connected to it.

Removing the Housing

1. Turn off the system power and unplug all cables.
2. Remove the two screws holding the upper cover
3. Slide the left cover out and then gently pull it outward to detach it from the housing.

.

Removing the Front Panel

1. Remove the front panel as the picture shows carefully.

.

Removing the ODD/FDD/HDD

1. Disconnect the ODD power cable and ODD cable from the ODD.

.
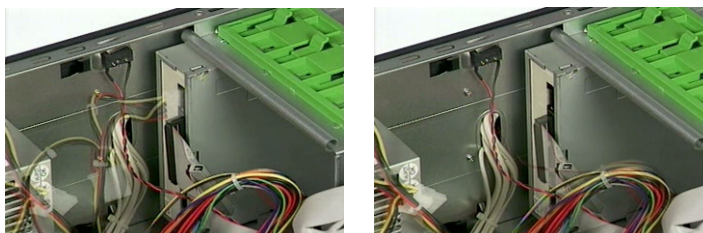
2. Disconnect the FDD cable and FDD power cable from the FDD.

.
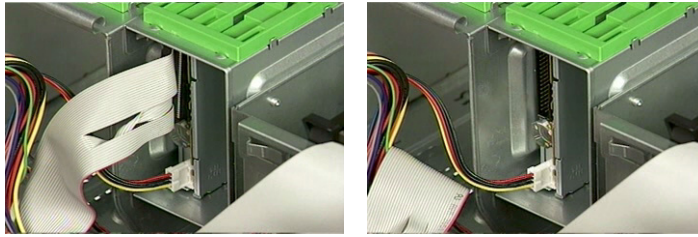
3. Disconnect the HDD cable and HDD power cable from the HDD.
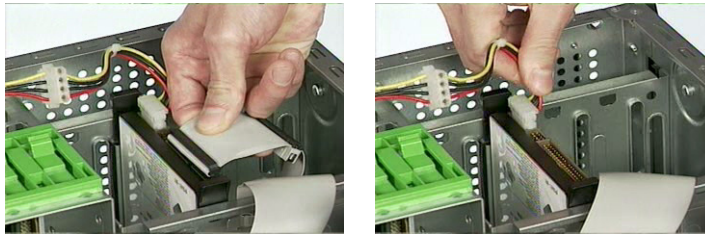
4. Pull the ODD lock and then detach the ODD from the frame.
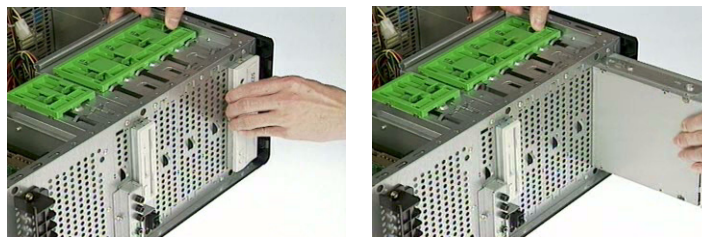
5. Pull the FDD lock and then detach the FDD from the frame.
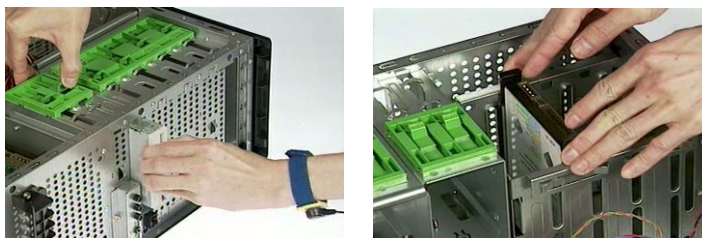
6. Press the right and left HDD holders and then detach the HDD carefully.
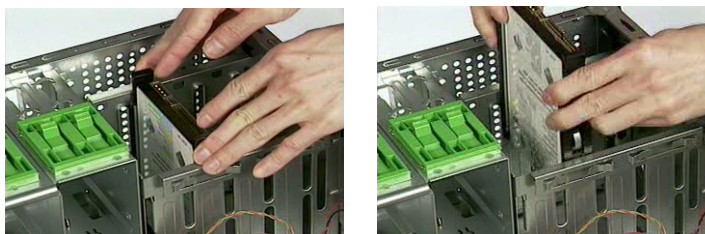
7. Remove the left ODD holder.

8. Remove the left FDD holder.

9. Remove the left and right HDD holders.

Removing the Internal Cables/Connectors and Memory

1. Disconnect the main power connector from the main board.

2. Disconnect the 12-voltage power connector from the main board.

.
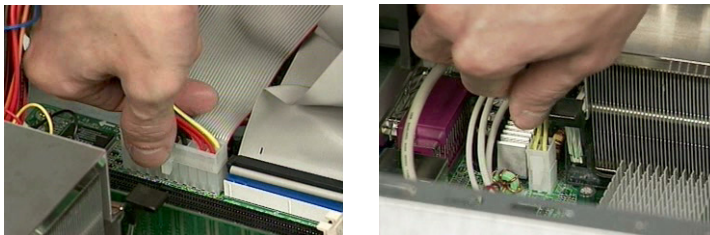
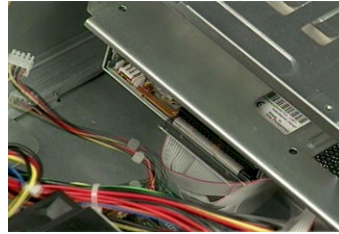3. Disconnect the FDD cable, ODD cable and HDD cable from the main board.

4. Press the leavers on the both sides of the DIMM socket outward to release the DIMM, and then gently pull the DIMM out to remove it.
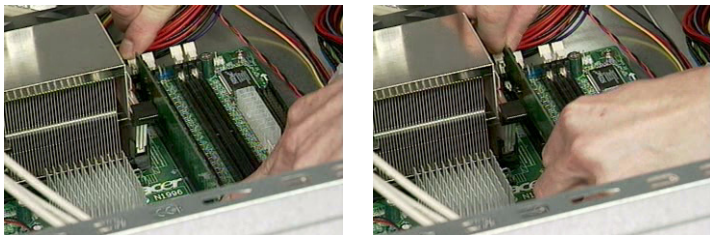
5. Disconnect the front panel audio connector from the main board.

6. Disconnect the two front USB connectors from the main board.
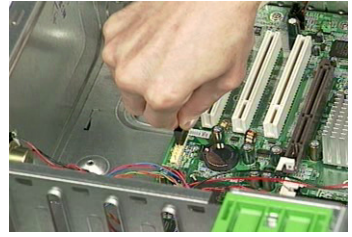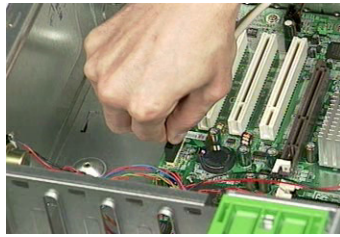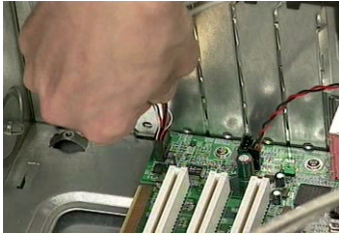
7. Disconnect the internal speaker connector from the main board.

8. Disconnect the LAN LED connector from the main board.
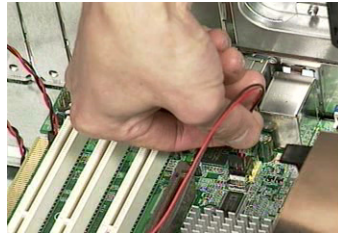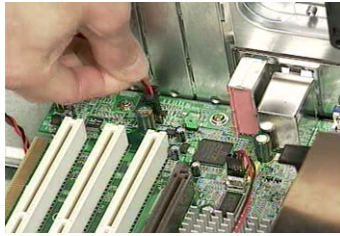
9. Disconnect the one button recovery connector, chassis intrusion switch connector, front panel connectors, and system fan connector from the main board.
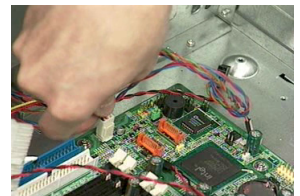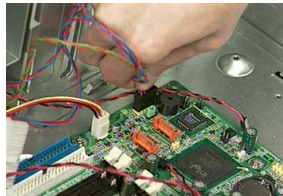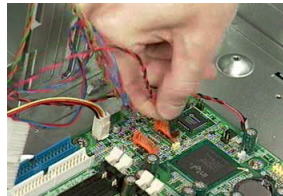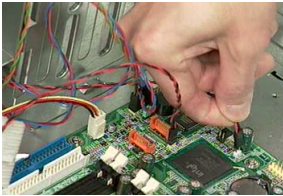
Removing the CPU Fan Sink, CPU and System Fan

1. Disconnect the CPU fan connector from the main board.

2. Remove the two latches on both side of the fan sink.

3. Remove the CPU fan sink from the main board.
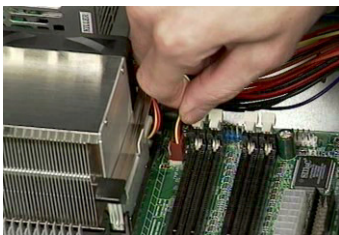
4. Pull the socket lever up to 90 degree and then pull out the CPU from the socket.

5. Put the socket lever back to the original position.
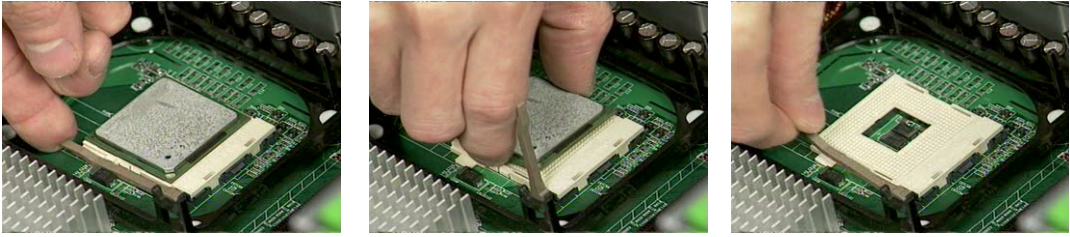
6. Remove the four screws holding the system fan.

7. Take out the system fan.
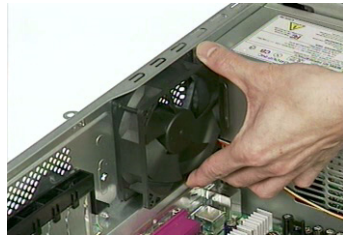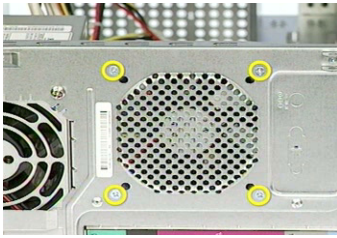
Removing the Power Supply and Main Board

1. Remove the four screws holding the power supply on the rear side.

2. Detach the power supply from the housing carefully.
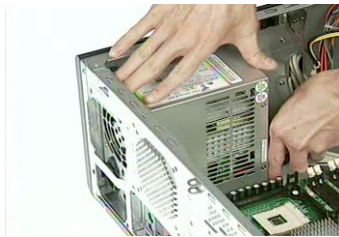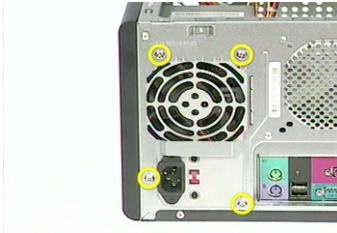
3. Remove the eight screws holding the main board as the picture shows.

4. Detach the main board from the lower case carefully.

.
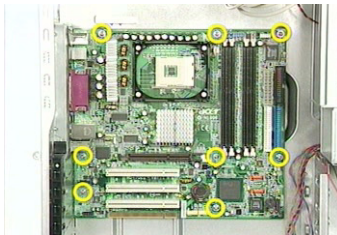
Removing the Upper Cover and Daughter Board Module

1. Remove the two screws holding the upper cover as the picture shows.

2. Cut the cable clamp with the tweezers.

3. Detach the upper cover from the housing carefully.
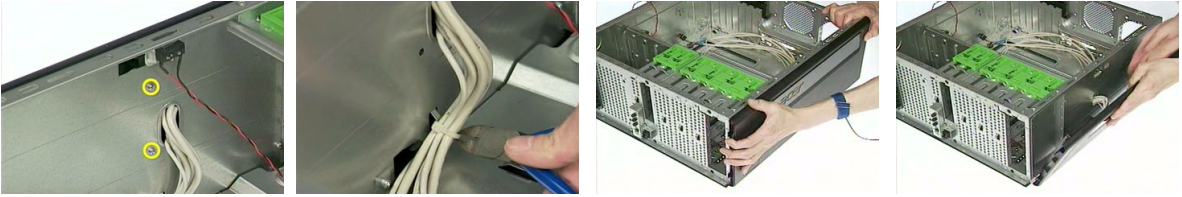
4. Remove the four screws holding the daughter board plate.

5. Remove the daughter board plate.

6. Remove the daughter board top cover as the picture shows.

.

7. Cut the cable clamp holding the two front USB cables and front panel audio cable.

8. Remove the daughter board module from the upper cover.

.
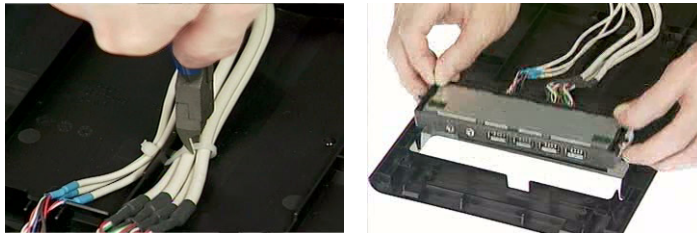
9. Remove the daughter board plate from the daughter board module.

10. Remove the two screws holding the daughter board.

11. Remove the daughter board.
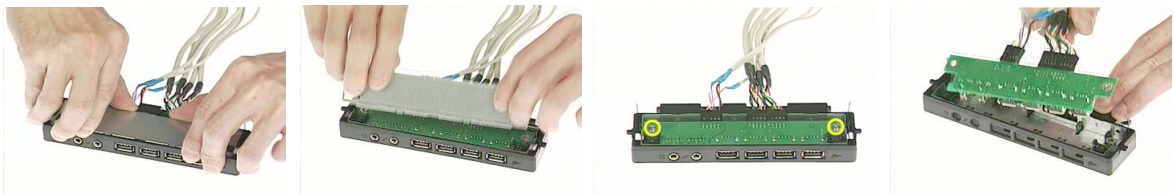
12. Disconnect the front panel audio connector from the daughter board.

13. Disconnect the two front USB connectors from the daughter board.
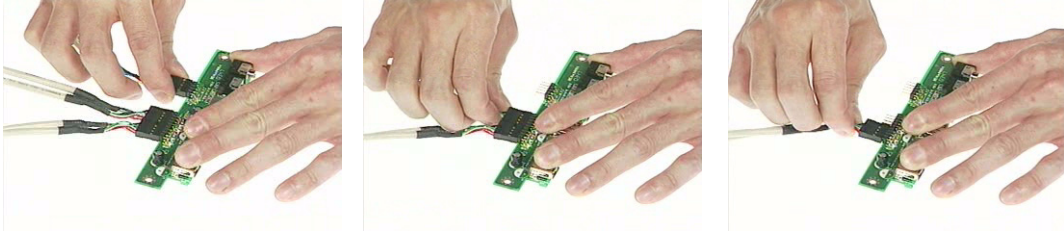
Removing the Intrusion Alarm and LCD Module

1. Remove the two screws holding the intrusion alarm, and then take out the intrusion alarm
.
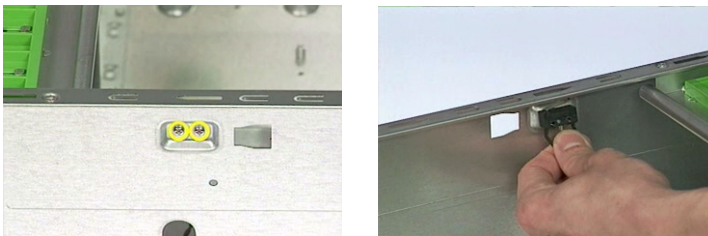
2. Remove one screw holding the LED module holder.
3. Remove the LED module as the picture shows.
.

4. Remove one screw holding the reset button holder as the picture shows.
5. Pull out the reset cable carefully.
.
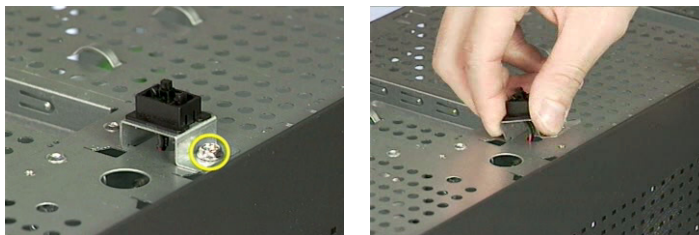
Disassembling the Veriton 5600GT/V

Opening the Housing

This section tells you how to open the housing cover when you need to install additional components inside the system unit.

CAUTION: Before you proceed, make sure that you have turned off the system and all peripherals connected to it.

Removing the Housing

1. Remove the two screws holding the upper cover.
2. Slide the upper cover out and then gently pull it outward to detach it from the housing.

.

Removing the ODD/FDD/HDD

1. Remove one screw holding the bracket holder.
2. Remove the bracket holder as the picture shows.
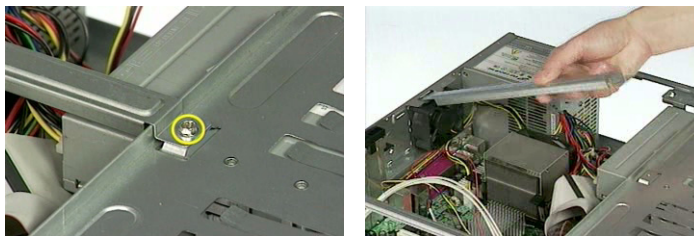
3. Disconnect the ODD cable and ODD power cable from the ODD.
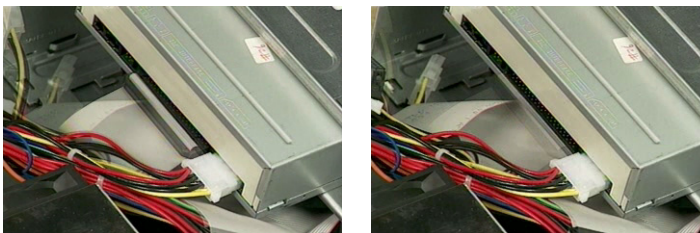
4. Pull the ODD lock and then detach the ODD from the frame.

.

5. Disconnect the FDD power cable and FDD cable from the FDD.
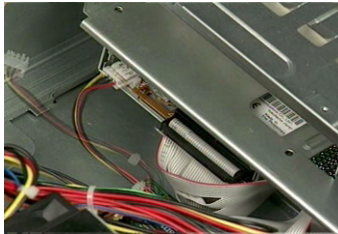
6. Pull the FDD lock and then detach the FDD from the frame.

.
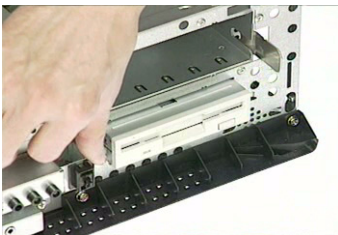
7. Disconnect the HDD cable and HDD power cable from the HDD.

8. Press the right and left HDD holders and then detach the HDD carefully.

9. Remove the right ODD holder.

10. Remove the left FDD holder.

11. Remove the left and right HDD holders.

Removing the Internal Cables/Connectors and Memory

1. Disconnect the main power connector from the main board.

2. Disconnect the 12-voltage power connector from the main board.

.
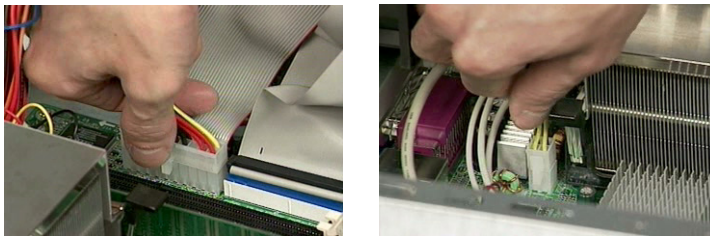
3. Disconnect the FDD cable, ODD cable and HDD cable from the main board.
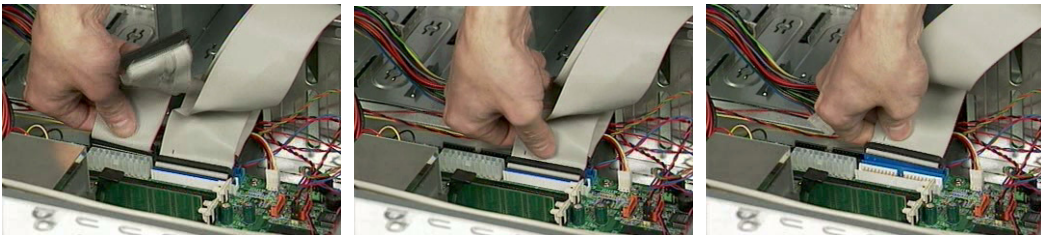
4. Press the leavers on the both sides of the DIMM socket outward to release the DIMM, and then gently pull the DIMM out to remove it.

Removing the CPU Fan Sink and CPU

1. Disconnect the CPU fan connector from the main board.

2. Remove the two latches on both side of the fan sink.

3. Remove the CPU fan sink from the main board.

4. Pull the socket lever up to 90 degree and then pull out the CPU from the socket.
5. Put the socket lever back to the original position.

Removing the Internal Cables/Connectors and Memory

1. Disconnect the front panel audio connector from the main board.
2. Disconnect the two front USB connectors from the main board.
3. Disconnect the LAN LED connector from the main board.
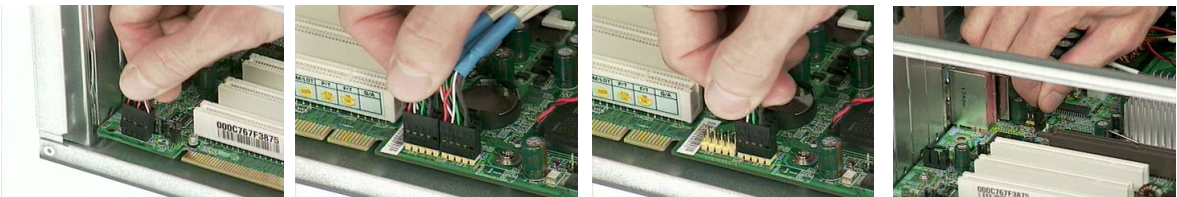
4. Disconnect the one button recovery connector, chassis intrusion switch connector, front panel connectors, and system fan connector from the main board.
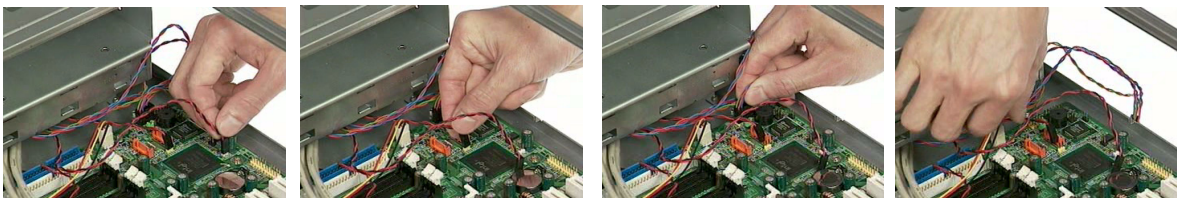
Removing the System Fan, Power Supply and Main Board

1. Remove the four screws holding the system fan.
2. Take out the system fan.
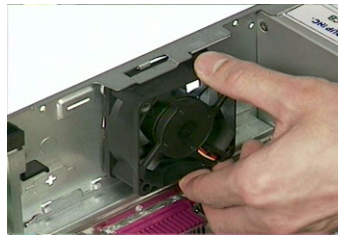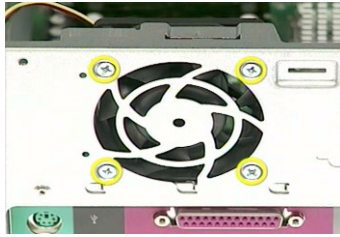
3. Remove the four screws holding the power supply on the rear side.

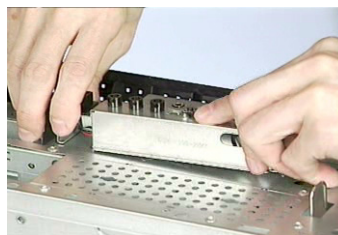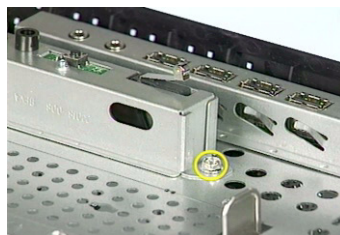4. Detach the power supply from the housing carefully.

.
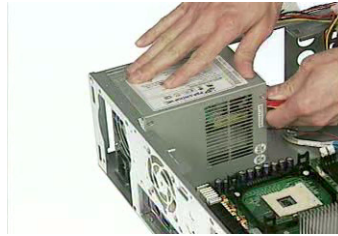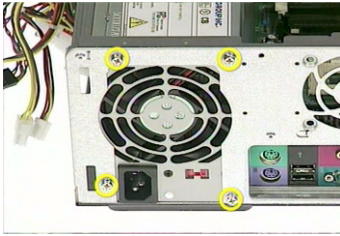
5. Remove the eight screws holding the main board as the picture shows.

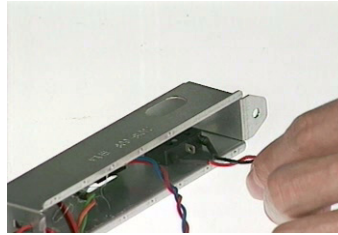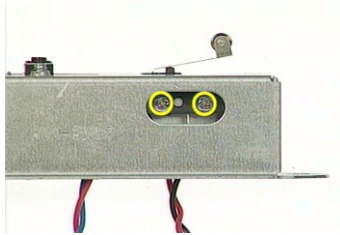6. Detach the main board from the lower case carefully.

.
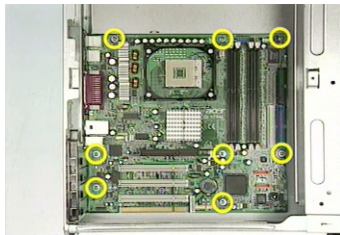
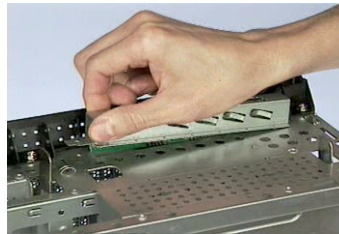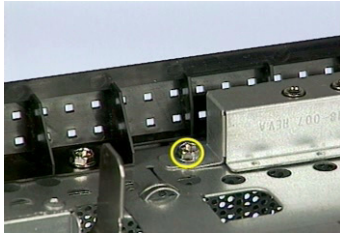## Removing the LED Module and Daughter Board Module

1. Remove one screw holding the LED module holder.

2. Remove the LED module as the picture shows.

3. Remove the two screws holding the intrusion alarm, and then take out the intrusion alarm.

4. Remove one screw holding the daughter board bracket.

5. Remove the daughter board module as the picture shows.

.

6. Disconnect the front panel audio connector from the daughter board.

7. Disconnect the two front USB connectors from the daughter board.

.
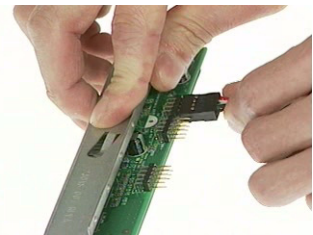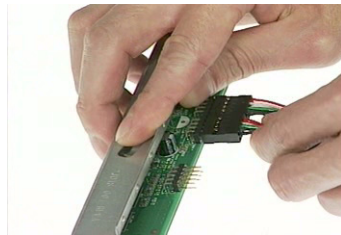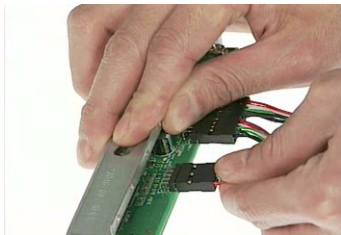
8. Remove the two screws holding the daughter board.

9. Remove the daughter board from the daughter board bracket.

Disassembling the Veriton 3600GT/V

Opening the Housing

This section tells you how to open the housing cover when you need to install additional components inside the system unit.

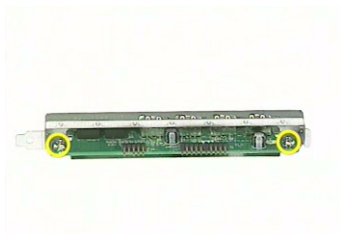**CAUTION:** Before you proceed, make sure that you have turned off the system and all peripherals connected to it.

Removing the Housing

1. Remove the three screws holding the upper cover.

2. Slide the left cover out and then gently pull it outward to detach it from the housing.

.

Removing the FDD/ODD/HDD

1. Lift up the FDD/HDD/ODD frame carefully.

2. Disconnect the FDD cable and FDD power cable from the FDD.

3. Disconnect the ODD cable and ODD power cable from the ODD.

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4. Disconnect the HDD cable and HDD power cable from the HDD.
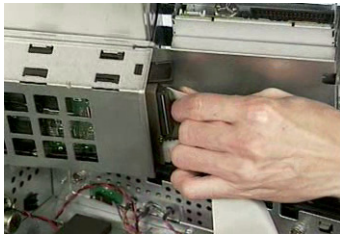
5. Pull the ODD lock and then detach the ODD from the frame.

.

6. Pull the FDD lock and then detach the FDD from the frame.

7. Press the right and left HDD holders and then detach the HDD carefully.

8. Remove the left ODD holder.

9. Remove the left FDD holder.

10. Remove the left and right HDD holders.

Removing the Internal Cables/Connectors and Memory

1. Remove the air duck as the video shows.

2. Disconnect the HDD cable, ODD cable, and FDD cable from the main board.
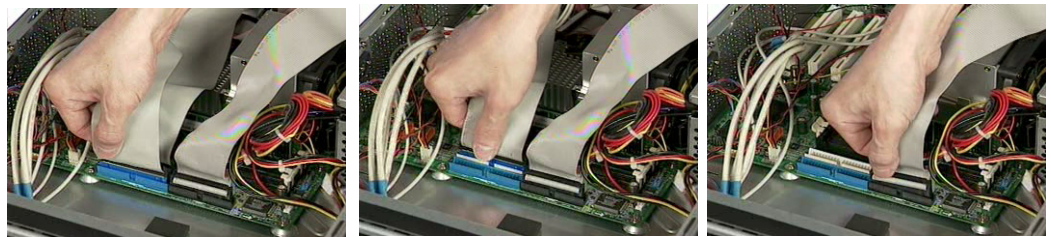
3. Disconnect the main power connector from the main board.
4. Disconnect the 12-voltage power connector from the main board.
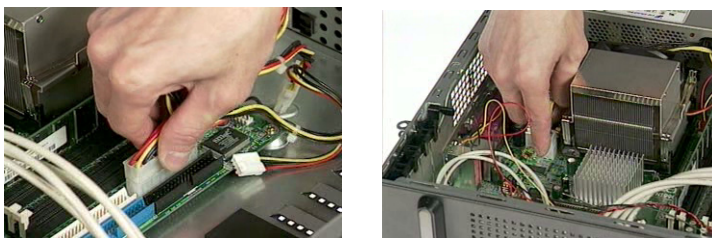
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5. Press the leavers on the both sides of the DIMM socket outward to release the DIMM, and then gently pull the DIMM out to remove it.
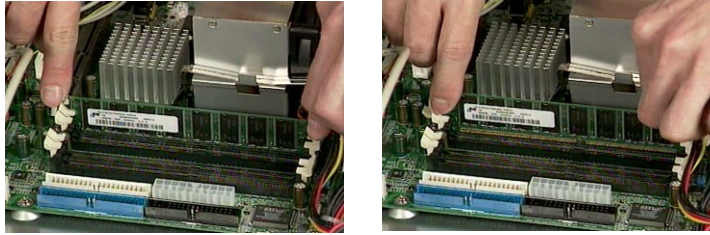
Removing the Internal Cables/Connectors

1. Disconnect the front panel audio connector from the main board.

2. Disconnect the two front USB connectors from the main board.
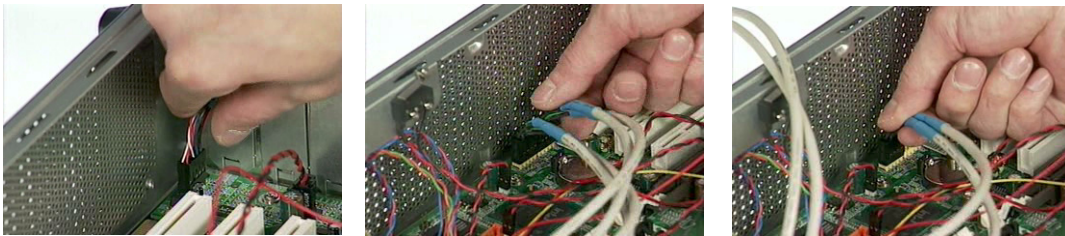
3. Disconnect the LAN LED connector from the main board.

4. Disconnect the internal speaker connector from the main board.
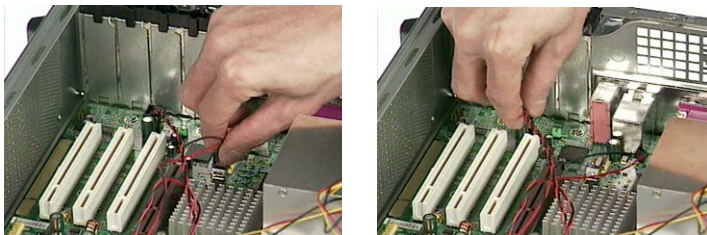
5. Disconnect the one button recovery connector, chassis intrusion switch connector, front panel connectors, and system fan connector from the main board.
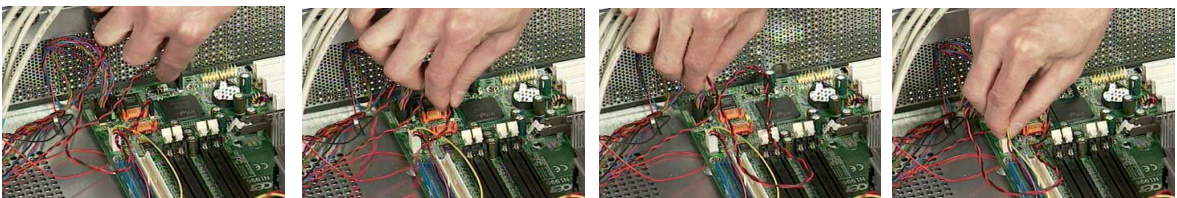
Removing the CPU Fan Sink and CPU

1. Disconnect the CPU fan connector from the main board.

2. Remove the two latches on both side of the fan sink.

3. Remove the CPU fan sink from the main board.
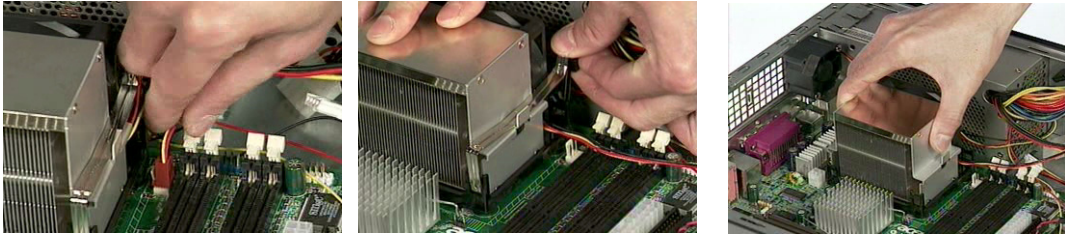
4. Pull the socket lever up to 90 degree and then pull out the CPU from the socket.

5. Put the socket lever back to the original position.
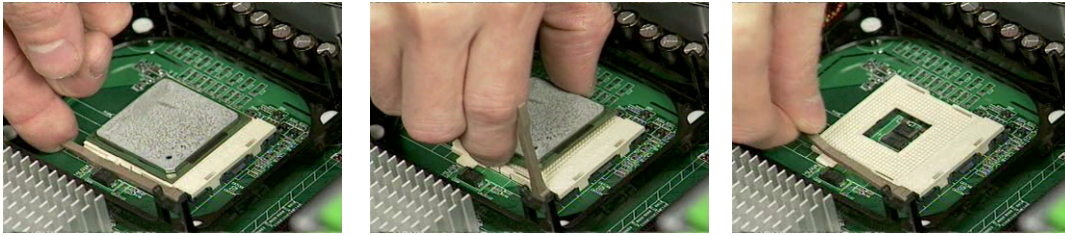
Removing the System Fan and Main Board

1. Remove the two screws holding the system fan.
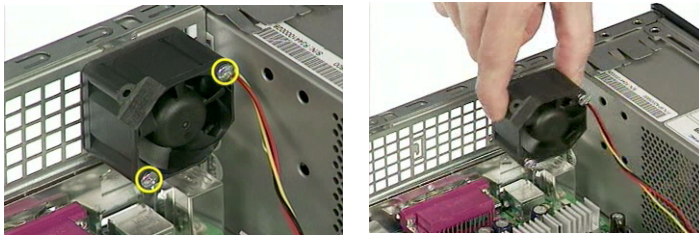
2. Take out the system fan.

3. Remove the eight screws holding the main board as the picture shows.

4. Detach the main board from the lower case carefully.

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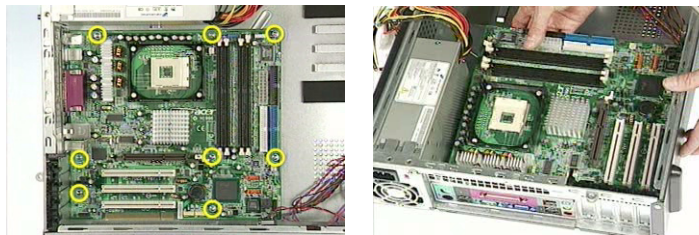
Removing the Intrusion Alarm, Daughter Board Module and LCD Module

1. Remove the two screws holding the intrusion alarm, and then take out the intrusion alarm.

.
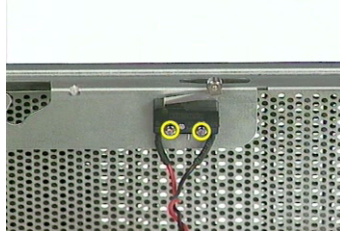
2. Remove the front panel as the video shows.

3. Disconnect the front panel audio connector from the daughter board.

4. Disconnect the two front USB connectors from the daughter board.

.
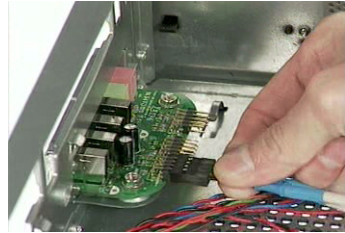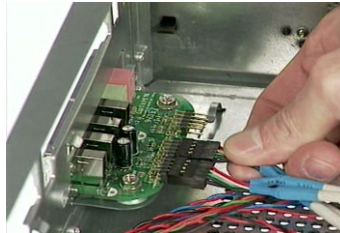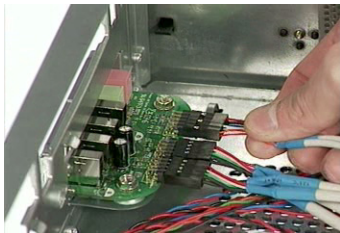
5. Remove one screw holding the daughter board bracket.

6. Remove the daughter board module as the video shows.

.
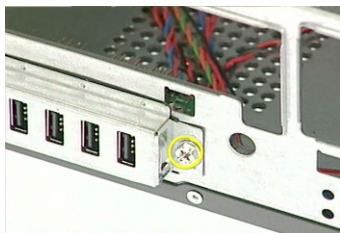
7. Remove the two screws holding the daughter board.

8. Remove the daughter board from the daughter board bracket.

.
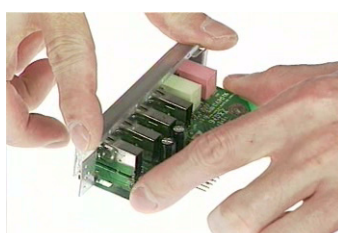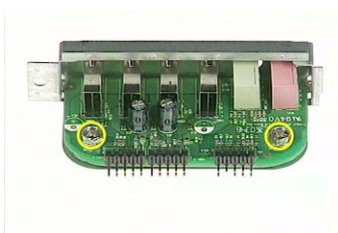
9. Pull the internal speaker cable, front panel cables, LAN LED cable and one button recovery cable as the video shows.

.
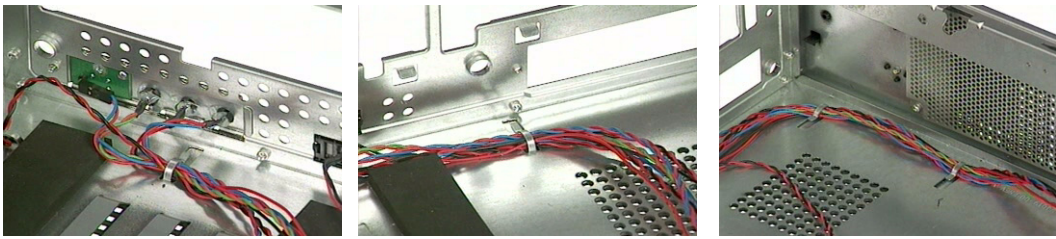
10. Remove one screw holding the LED module holder.

11. Remove the LED module as the video shows.

.
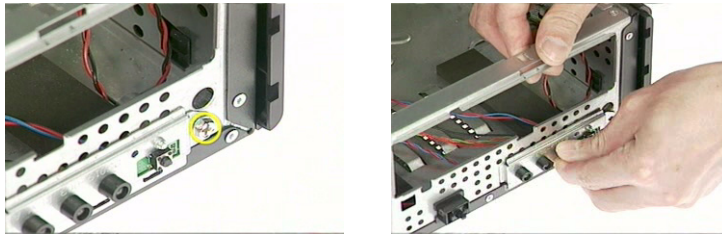
12. Remove the reset button as the video shows.

13. Pull out the reset cable carefully.

.
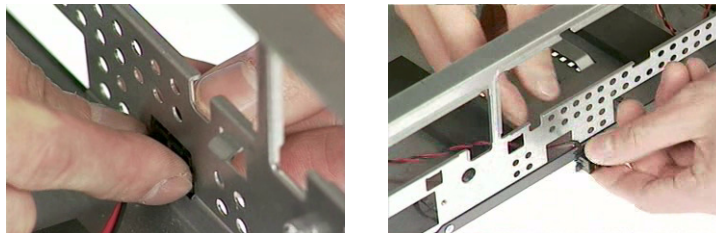
Removing the Upper Case and Power supply

1. Remove one screw holding the upper cover.

2. Remove the upper cover as the video shows.
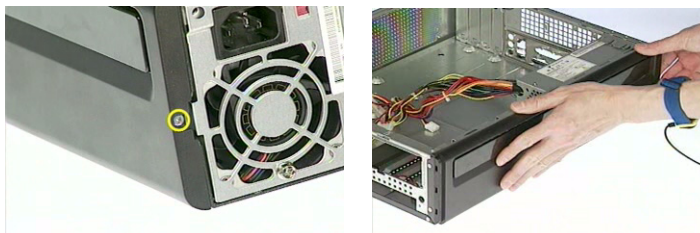
3. Remove one screw holding the power supply as the video shows.

4. Remove the two screws holding the power supply on the rear side.

5. Remove the power supply bracket.

6. Detach the power supply from the housing carefully.
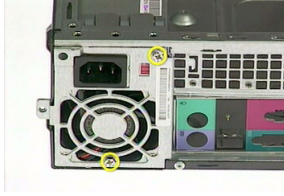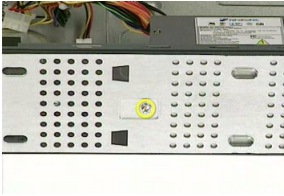
Troubleshooting

This chapter provides troubleshooting information for the Veriton 7600GTR/7600GT/7600V, 5600GT/5600V and 3600GT/3600V.

❏ Power-On Self-Test (POST)

❏ Index of Error Message

❏ Index of Error Symptoms

❏ Undetermined Problems

Power-On Self-Test (POST)

Each time you turn on the system, the Power-on Self Test (POST) is initiated. Several items are tested during POST, but is for the most part transparent to the user.

The Power-On Self Test (POST) is a BIOS procedure that boots the system, initializes and diagnoses the system components, and controls the operation of the power-on password option. If POST discovers errors in system operations at power-on, it displays error messages on screen, generates a check point code at port 80h or even halts the system if the error is fatal.

The main components on the main board that must be diagnosed and/or initialized by POST to ensure system functionality are as follows:

- ❏ Microprocessor with built-in numeric co-processor and cache memory subsystem
- ❏ Direct Memory Access (DMA) controller
- ❏ Interrupt system
- ❏ Three programmable timers
- ❏ ROM subsystem
- ❏ RAM subsystem
- ❏ CMOS RAM subsystem and real time clock/calendar with battery backup
- ❏ Onboard parallel interface controller
- ❏ Embedded hard disk interface and one diskette drive interface
- ❏ Keyboard and auxiliary device controllers
- ❏ 1.44M floppy controller
- ❏ I/O ports
    - ❏ One parallel port
    - ❏ One PS/2-compatible mouse port
    - ❏ One PS/2-compatible keyboard port

NOTE: When Post executes a task, it uses a series of preset numbers called check points to be latched at

port 80h, indicating the stages it is currently running. This latch can be read and shown on a debug board.

The following table describes the BIOS common tasks carried out by POST. Each task is denoted by an unique check point number. For other unique check point numbers that are not listed in the table, refer to the corresponding product service guide.

Post Checkpoints List: The list may vary accordingly depending on your BIOS

.

Checkpoint	Description
CFh	Test CMOS R/W functionality
C0h	Early chipset initialization: 　　-Disable shadow RAM 　　-Disable L2 cache (socket 7 or below) 　　-Program basic chipset registers
C1h	Detect memory 　　-Auto-detection of DRAM size, type and ECC. 　　-Auto-detection of L2 cache (socket 7 or below)
C3h	Expand compressed BIOS code to DRAM
C5h	Call chipset hook to copy BIOS back to E000 & F000 shadow RAM.
01h	Expand the Xgroup codes locating in physical address 1000:0
02h	Reserved
03h	Initial Superio_Early _Init switch

.

Checkpoint	Description
04h	Reserved
05h	1. Blank out screen 2. Clear CMOS error flag
06h	Reserved
07h	1. Clear 8042 interface 2. Initialize 8042 self-test
08h	1. Test special keyboard controller for Winbond 977 series Super I/O chips. 2. Enable keyboard interface.
09h	Reserved
0Ah	1. Disable PS/2 mouse interface (optional) 2. Auto detect ports for keyboard & mouse followed by a port & interface swap (optional). 3. Reset keyboard for Winbond 977 series Super I/Q chips.
0Bh	Reserved
0Ch	Reserved
0Dh	Reserved
0Eh	Test F000h segment shadow to see whether it is R/W-able or not. If test fails, keep beeping the speaker.
0Fh	Reserved
10h	Auto detect flash type to load appropriate flash R/W codes into the run time area in F000 for ESCD & DMI support.
11h	Reserved
12h	Use walking 1's algorithm to check out interface in CMOS circuitry. Also set real-time clock power status, and then check for override.
13h	Reserved
14h	Program chipset default values into chipset. Chipset default values are MODBINable by OEM customers.
15h	Reserved
16h	Initial Early_Init_Onboard_Generator switch.
17h	Reserved
18h	Detect CPU information including brand, SMI type (Cyrix or Intel) and CPU level (586 or 686)
19h	Reserved
1Ah	Reserved
1Bh	Initial interrupts vector table. If no special specified, all H/W interrupts are directed to SPURIOUS_INT_HDLR & S/W interrupts to SPURIOUS_soft_HDLR.
1Ch	Reserved
1Dh	Initial Early_PM_INIT switch.
1Eh	Reserved
1Fh	Load keyboard matrix (notebook platform)
20h	Reserved
21h	HPM initialization (notebook platform)
22h	Reserved

Checkpoint	Description

23h	1. Check validity of RTC value:
	   e.g. a value of 5Ah is an invalid value for RTC minute.
	2. Load CMOS settings into BIOS stack. If CMOS checksum fails, use default value instead.
	3. Prepare BIOS resource map for PCI & PnP use. If ESCD is valid, take into consideration of the ESCD's legacy information.
	4. Onboard clock generator initialization. Disable respective clock resource to empty PCI & DIMM slots.
	5. Early PCI initialization
	    -Enumerate PCI bus number
	    -Assign memory & I/O resource
	    -Search for a valid VGA device and VGA BIOS, and put it into C000:0

24h	Reserved
25h	Reserved
26h	Reserved
27h	Initialize INT 09 buffer
28h	Reserved
29h	1. Program CPU internal MTRR (P6 & PII) for 0-640K memory address. 2. Initialize the APIC for Pentium class CPU. 3. Program early chipset according to CMOS setup. Example: onboard IDE controller. 4. Measure CPU speed. 5. Invoke video BIOS.
2Ah	Reserved
2Bh	Reserved
2Ch	Reserved
2Dh	1. Initialize multi-language 2. Put information on screen display, including Award title, CPU type, CPU speed...
2Eh	Reserved
2Fh	Reserved
30h	Reserved
31h	Reserved
32h	Reserved
33h	Reset keyboard except Winbond 977 series Super I/O chips.
34h	Reserved
35h	Reserved
36h	Reserved
37h	Reserved
38h	Reserved
39h	Reserved
3Ah	Reserved
3Bh	Reserved
3Ch	Test 8254.
3Dh	Reserved
3Eh	Test 8259 interrupt mask bits for channel 1
3Fh	Reserved
40h	Test 8259 interrupt mask bits for channel 2
41h	Reserved
42h	Reserved

.

Checkpoint	Description
43h	Test 8259 functionality
44h	Reserved
45h	Reserved
46h	Reserved
47h	Initialize EISA slot
48h	Reserved
49h	1. Calculate total memory by testing the last double word of each 64K. 2. Program writes allocation for AMD K5 CPU.
4Ah	Reserved
4Bh	Reserved
4Ch	Reserved
4Dh	Reserved
4Eh	1. Program MTRR of M1 CPU. 2. Initialize L2 cache for P6 class CPU & program CPU with proper cacheable range. 3. Initialize the APIC for P6 class CPU. 4. On MP platform, adjust the cacheable range to smaller one in case the cacheable ranges between each CPU are not identical.
4Fh	Reserved
50h	Initialize USB
51h	Reserved
52h	Test all memory (clear all extended memory to 0)
53h	Reserved
54h	Reserved
55h	Display number of processors (multi-processor platform)
56h	Reserved
57h	1. Display PnP logo 2. Early ISA PnP initialization -Assign CSN to every ISA PnP device.
58h	Reserved
59h	Initialize the combined Trend Anti-Virus code.
5Ah	Reserved
5Bh	(Optional Feature) Show message for entering AWDFLASH.EXE from FDD (optional)
5Ch	Reserved
5Dh	1. Initialize Init_Onboard_Super_IO switch. 2. Initialize Init_Onboard_AUDIO switch.
5Eh	Reserved
5Fh	Reserved
60h	Okay to enter Setup utility; i.e. not until this POST stage can users enter the CMOS setup utility.
61h	Reserved
62h	Reserved
63h	Reserved
64h	Reserved
65h	Initialize PS/2 Mouse
66h	Reserved

.

Checkpoint	Description
67h	Prepare memory size information for function call: INT 15h ax=E820h
68h	Reserved
69h	Turn on L2 cache
6Ah	Reserved
6Bh	Program chipset registers according to items described in Setup& Auto-configuration table.
6Ch	Reserved
6Dh	1. Assign resources to all ISA PnP devices. 2. Auto assign ports to onboard COM ports if the corresponding item in Setup is set to "AUTO"
6Eh	Reserved
6Fh	1. Initialize floppy controller 2. Set up floppy related fields in 40: hardware.
70h	Reserved
71h	Reserved
72h	Reserved

73h	(Optional Feature)
	 Enter AWDFLASH.EXE if:
	     -AWDFLASH is found in floppy drive
	     -ALT+F2 is pressed

74h	Reserved
75h	Detect & install all IDE devices: HDD, LS120, ZIP,CDROM.....
76h	Reserved
77h	Detect serial ports & parallel ports
78h	Reserved
79h	Reserved
7Ah	Detect & install co-processor
7Bh	Reserved
7Ch	Reserved
7Dh	Reserved
7Eh	Reserved

7Fh	1. Switch back to text mode if full screen logo is supported.
	   -If errors occur, report errors & wait for keys
	   -If no errors occur or F1 key is pressed to continue:
	   Clear EPA or customization logo.

80h	Reserved
81h	Reserved
82h	1. Call chipset power management hook. 2. Recover the text fond used by EPA logo (not for full screen logo) 3. If password is set, ask for password.
83h	Save all data in stack back to CMOS.
84h	Initialize ISA PnP boot devices.

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Checkpoint	Description
85h	1. USB final Initialization 2. NET PC: Build SYSID structure 3. Switch screen back to text mode. 4. Set up ACPI table at top of memory. 5. Invoke ISA adapter ROMs. 6. Assign IRQs to PCI devices 7. Initialize APM 8. Clear noise of IRQs
86h	Reserved
87h	Reserved
88h	Reserved
89h	Reserved
90h	Reserved
91h	Reserved
92h	Reserved
93h	Read HDD boot sector information for Trend Anti-Virus code
94h	1. Enable L2 cache 2. Program boot up speed 3. Chipset final initialization 4. Power management final initialization 5. Clear screen & display summary table 6. Program K6 write allocation 7 Program P6 class write combining.
95h	1. Program daylight saving 2. Update keyboard LED & typematic rate
96h	1. Build MP table 2. Build & update ESCD 3. Set CMOS century to 20h or 19h 4. Load CMOS time into DOS timer tick 5. Build MSIRQ routing table
FFh	Boot attempt (INT 19h)

POST Error Messages List

If you cannot run the diagnostics program tests but did receive a POST error message, use "POST Error Messages List" to diagnose system problems. If you did not receive any error message, look for a description of your error symptoms in "Error Symptoms List" on page 120.

NOTE: When you have deemed it necessary to replace an FRU, and have done so, you must run a total system check to ensure that no other activity has been affected by the change. This system check can be done through the diagnostics program.

NOTE: Check all power supply voltages, switch, and jumper settings before you replace the main board. Also check the power supply voltages if you have a "system no-power" condition.

If you are unable to correct the problem by using the "BIOS Messages List" table and "Error Symptoms List" table, go to "Undetermined Problems".

To diagnose a problem, first find the BIOS error messages in the left column. If directed to a check procedure, replace the FRU indicated in the check procedure. If no check procedure is indicated, the first Action/FRU listed in right column is the most likely cause.

BIOS Messages	Action/FRU
BIOS ROM checksum error - System halted	The checksum of the BIOS code in the BIOS chip is incorrect, indicating the BIOS code may have become corrupt. Contact your system dealer to replace the BIOS.
CMOS Battery Failed	The CMOS battery is no longer functional. Contact your system dealer for a replacement the BIOS.
CMOS Checksum Error- defaults loaded	Checksum of CMOS is incorrect, so the system loads the default equipment configuration. A checksum error may indicate that CMOS has become corrupt. A weak battery may have caused this error. Check the battery and replace if necessary.
CPU at nnnn	Displays the running speed of CPU.
Display switch is set incorrectly	The display switch on the motherboard can be set to either monochrome or color. This message indicates the switch is set to a different setting than indicated in Setup. Determine which setting is correct, and then either turn off the system and change the jumper, or enter Setup and change the Video selection.
Press ESC to skip memory test	The user may press Esc to skip the full memory test.
Floppy disk(s) fail	Cannot find or initialize the floppy drive controller or the drive. Make sure the controller is installed correctly, if no floppy drives are installed, be sure the Diskette Drive selection in Setup is set to NONE or AUTO.
HARD DISK initializing - Please wait a moment	Some hard drives require extra time to initialize.
HARD DISK INSTALL FAILURE	Cannot find or initialize the hard drive controller or the drive. Make sure the controller is installed correctly. If no hard drives are installed, be sure the Hard Drive Selection in Setup is set to NONE.
Hard disk(s) diagnosis fail	The system may run specific disk diagnostic routines. This message appears if one or more hard disks return an error when the diagnostics run.
Keyboard Error Or No Keyboard Present	Cannot initialize the keyboard. Make sure the keyboard is attached correctly and no keys are pressed during POST. To purposely configure the system without a keyboard, set the error halt condition in Setup to HALT ON ALL, BUT KEYBOARD. The BIOS then ignores the missing keyboard during POST.
Keyboard is locked out - Unlock the key	This message usually indicates that one or more keys have been pressed during the keyboard tests. Be sure no objects are resting on the keyboard.

BIOS Messages	Action/FRU
Memory Test:	This message displays during a full memory test, counting down the memory areas being tested.
Memory test fail	If POST detects an error during memory testing, additional information appears giving specifics about the type and location of the memory error.
Override enabled - Defaults loaded	If the system cannot boot using the current CMOS configuration, the BIOS can override the current configuration with a set of BIOS defaults designed for the most stable, minimal-performance system operations.
Press TAB to show POST screen	System OEMs may replace the Phoenix Technologies Award BIOS POST display with their own proprietary display. Including this message in the OEM display permits the operator to switch between the OEM display and the default POST display.
Primary master hard disk fail	POST detects an error in the primary master IDE hard drive.
Primary slave hard disk fail	POST detects an error in the secondary master IDE hard drive.
Secondary master hard disk fail	POST detects an error in the primary slave IDE hard drive.
Secondary slave hard disk fail	POST detects an error in the secondary slave IDE hard drive.

Error Symptoms List

NOTE: To diagnose a problem, first find the error symptom in the left column. If directed to a check procedure, replace the FRU indicated in the check procedure. If no check procedure is indicated, the first Action/ FRU listed in right column is the most likely cause.

Error Symptom	Action/FRU
Processor / Processor Fan	
NOTE: Normally, the processor fan should be operative, and the processor clock setting should be exactly set to match its speed requirement before diagnosing any processor problems.	
Processor fan does not run but power supply fan runs.	1. Ensure the system is not in power saving mode. See "Power Management" in chapter 2. 2. With the system power on, measure the voltage of processor fan connector. Its reading should be +12Vdc. Its reading should be +12Vdc. If the reading shows normal, but the fan still does not work, then replace a good fan. 3. Main board.
Processor test failed.	1. Processor. 2. Main board.
Main board and Memory	
NOTE: Ensure the memory modules are installed properly and the contact leads are clean before diagnosing any system problems.	
Memory test failed.	1. See "Memory" 2. Main board
Incorrect memory size shown or repeated during POST.	1. Insert the memory modules in the DIMM sockets properly, then reboot the system. 2. Memory module. 3. Main board.
System works but fails to enter power saving mode when the `Power Management Mode` is set to `Enabled`.	1. Enter BIOS Setup and load default settings. In Windows Systems, check settings in Power Management Property of Control Panel. 2. Reload software from Recovery CD.
Blinking cursor only; system does not work.	1. Diskette/IDE drive connection/cables 2. Diskette/IDE disk drives 3. See "Undetermined Problems". 4. Main board
Diskette Drive	
NOTE: Ensure the diskette drive is auto-setting in BIOS Setup and its read/write head is clean before diagnosing any diskette drive problems.(If only one drive is installed, please make sure the drive is connected to master connector or the drive is set to master.)	
Media and drive are mismatched.	1. Ensure the diskette drive is configured correctly in the Disk Drives of BIOS Setup. 2. Ensure the diskette drive is correctly formatted. 3. Diskette drive connection/cable 4. Diskette drive 5. Main board
Diskette drive does not work.	1. Ensure the diskette drive is not set to `None` in the Disk Drives of BIOS Setup. 2. Diskette drive power 3. Diskette drive connection/cable 4. Diskette drive 5. Main board
Diskette drive read/write error.	1. Diskette. 2. Diskette drive cable. 3. Diskette drive. 4. Main board.

Error Symptom	Action/FRU
Diskette drive LED comes on for more than 2 minutes when reading data.	1. Diskette 2. Diskette drive connection/cable 3. Diskette drive 4. Main board
Diskette drive LED fails to light, and the drive is unable to access for more than 2 minutes.	1. Diskette 2. Diskette drive power 3. Diskette drive connection/cable 4. Diskette drive 5. Main board
Diskette drive test failed.	1. Diskette 2. Diskette drive 3. Diskette drive cable 4. Main board
Hard Disk Drive	
NOTE: Ensure hard disk drive is configured correctly in BIOS Setup, cable/jumper are set correctly before diagnosing any hard disk drive problems. (If only one drive is installed, please make sure the drive is connected to master connector or the drive is set to master.)	
Hard disk drive test failed.	1. Enter BIOS Setup and Load default settings. 2. Hard disk drive cable. 3. Hard disk drive. 4. Main board.
Hard disk drive cannot format completely.	1. Enter BIOS Setup and Load default settings. 2. Hard disk drive cable. 3. Hard disk drive. 4. Main board.
Hard disk drive has write error.	1. Enter BIOS Setup and Load default settings. 2. Hard disk drive.
Hard disk drive LED fails to light, but system operates normally.	1. With the system power on, measure the voltage of hard disk LED connector. 2. Hard drive LED cable.
CD/DVD-ROM Drive	
NOTE: Ensure CD/DVD-ROM drive is configured correctly in BIOS Setup, cable/jumper are set correctly and its laser beam is clean before diagnosing any CD/DVD-ROM drive problems.	
CD/DVD-ROM drive LED doesn't come on but works normally.	1. CD/DVD-ROM drive
CD/DVD-ROM drive LED flashes for more than 30 seconds before LED shutting off. Software asks to reinstall disc. Software displays a reading CD/DVD error.	1. CD/DVD-ROM may have dirt or foreign material on it. Check with a known good disc. 2. CD/DVD-ROM is not inserted properly. 3. CD/DVD-ROM is damaged.
CD/DVD-ROM drive cannot load or eject when the system is turned on and its eject button is pressed and held.	1. Disconnect all cables from CD/DVD-ROM drive except power cable, then press eject button to try to unload the disk. 2. CD/DVD-ROM drive power. 3. CD/DVD-ROM drive
CD/DVD-ROM drive does not read and there are no messages are displayed.	1. CD may have dirt or foreign material on it. Check with a known good disc. 2. Ensure the CD/DVD-ROM driver is installed properly. 3. CD/DVD-ROM drive.
CD/DVD-ROM drive can play audio CD but no sound output.	1. Ensure the headphone jack of the CD/DVD-ROM has an output. 2. Turn up the sound volume. 3. Speaker power/connection/cable. 4. CD/DVD-ROM drive.
Real-Time Clock	
Real-time clock is inaccurate.	1. Ensure the information in the `Standard CMOS Feature` of BIOS Setup is set correctly. 2. RTC battery. 3. Main board

Error Symptom	Action/FRU
Audio	
Audio software program invokes but no sound comes from speakers.	1. Speaker power/connection/cable.
Modem	
Modem ring cannot wake up system from suspend mode.	1. For the External Modem, make sure Power on By Ring in BIOS Setup or Power Management is set to Enabled. For the PCI modem, make sure Wake up by PCI card is set to Enabled. 2. If PCI modem card is used, reinsert the modem card to PCI slot firmly or replace the modem card. 3. In Win 98, ensure the telephone application is configured correctly for your modem and set to receive messages and/or fax.
Data/fax modem software program invokes but cannot receive/send data/fax	1. Ensure the modem card is installed properly.
Fax/voice modem software program invokes but has no sound output. (Data files are received normally; voice from modem cannot be produced, but system sound feature works normally.)	1. Ensure the modem voice-in cable from modem adapter card to main board
Video and Monitor	
Video memory test failed. Video adapter failed.	1. Remove all non-factory-installed cards. 2. Load default settings (if screen is readable). 3. Main board
Display problem: - Incorrect colors No high intensity Missing, broken, or incorrect characters Blank monitor (dark) Blank monitor (bright) Distorted image Unreadable monitor Other monitor problems	1. Monitor signal connection/cable. 2. Monitor 3. Video adapter card 4. Main board
Display changing colors.	1. Monitor signal connection/cable 2. Monitor 3. Main board
Display problem not listed above (including blank or illegible monitor).	1. "Monitor" 2. Load default settings (if screen is readable). 3. Main board

Error Symptom	Action/FRU
Parallel/Serial Ports	
Execute "Load BIOS Default Settings" in BIOS Setup to confirm ports presence before diagnosing any parallel/serial ports problems.	
Serial or parallel port loop-back test failed.	1. Make sure that the LPT# or COM# you test is the same as the setting in BIOS Setup. 2. Loop-back. 3. Main board.
Printing failed.	1. Ensure the printer driver is properly installed. Refer to the printer service manual. 2. Printer. 3. Printer cable. 4. Main board.
Printer problems.	1. Refer to the service manual for the printer.
Keyboard	
Some or all keys on keyboard do not work.	1. Keyboard
Power Supply	
Pressing power switch does not turn off system. (Only unplugging the power cord from electrical outlet can turn off the system.)	1. Ensure the `Soft-off by PWR-BTTN.` in BIOS Setup of `Power Management` is not set to Instant-off. 2. Power switch cable assembly
Pressing power switch does not turn on the system.	1. Ensure the power override switch (situated at the back of the machine, just above the connector for the power cable) is not set to OFF. 2. Power switch cable assembly.
Executing software shutdown from Windows98 Start menu does not turn off the system. (Only pressing power switch can turn off the system).	1. Load default settings. 2. Reload software from Recovery CD.
No system power, or power supply fan is not running.	1. Power Supply 2. Main board
Other Problems	
Any other problems.	1. Undetermined Problems

Undetermined Problems

If an error message is present, go to "POST Error Messages List" on page 118. If you did not receive any messages, if the symptom is listed in "or "Error Symptoms List" on page 120. If you still cannot solve the problem, continue with this check:

1. Check the power supply voltages. If the voltages are correct continue with the following steps:
2. Power off the system unit.
3. Perform the following checks, one by one, until you have isolated the problem FRU.
4. Load default settings in setup.
5. Check all main board jumper positions and switch settings.
6. Check all adapter card jumper positions.
7. Check all device jumper positions.
8. Check all cables and connectors for proper installation.
9. If the jumpers, switches and voltage settings are correct, remove or disconnect the following, one at a time:
10. Non-Acer devices
    ❑ External devices
    ❑ Any adapter card (modem card, LAN card or video card, if installed)
    ❑ CD/DVD-ROM drive
    ❑ Diskette drive
    ❑ Hard disk drive
    ❑ DIMM
    ❑ Processor
    ❑ Main board
11. Power on the system unit.
12. Repeat steps 2 through 5 until you find the failing device or adapter.

Jumper and Connector Information

Jumpers and Connectors
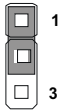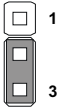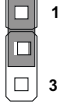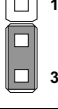
Refer to the following figure for the location of the jumpers and connectors on the main board:
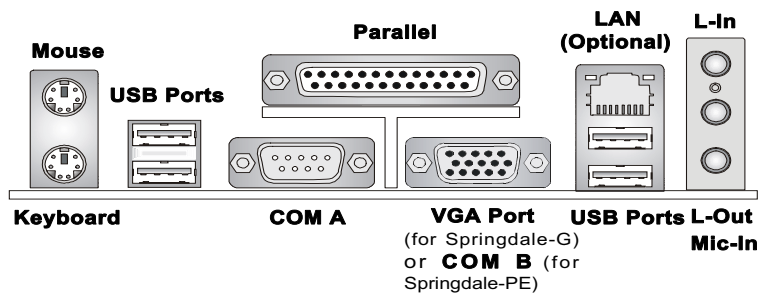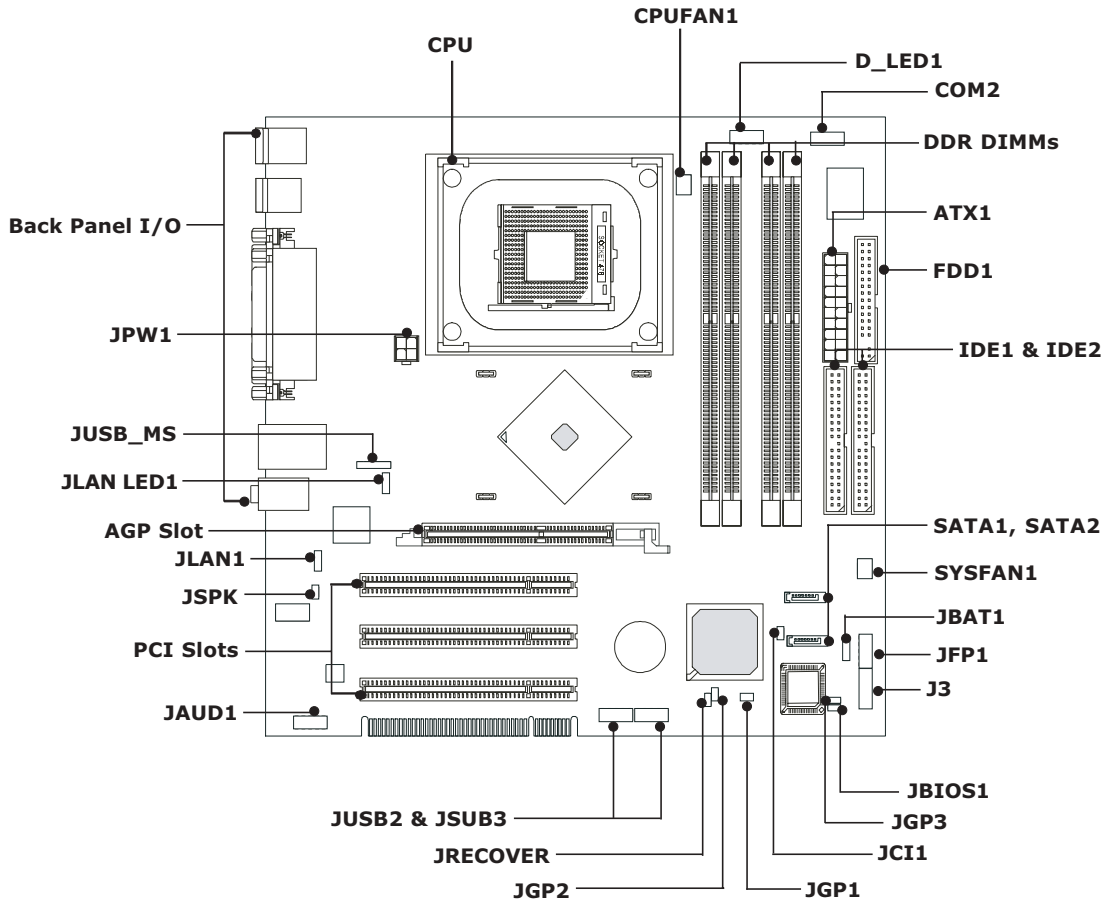
Jumper and Connector Description

Label	Component	Label	Component
JPW1	ATX 12V Power Connector	JCI1	Chassis Intrusion Switch Connector
CPUFAN1	Processor Fan Connector	JBAT1	Clear CMOS Jumper
D_LED1	D Bracket 2 Connector	JBIOS1	BIOS Flash Jumper
COM1	9-pin Serial Port	JRECOVER	System Recovery Switch Connector
FDD1	FDD Connector	USB2/3	Front USB Connectors
ATX1	20-pin Power Connector	PCI1~3	Peripheral Component Interconnecto Slots
IDE2/1	Ultra ATA HDD Connectors IDE1: Primary IDE Connector IDE2: Secondary IDE Connector	JAUD1	Front Panel Audio Connector
SYSFAN1	System Fan Connector	CD1	CD-In Connector
SATA1/2	Serial ATA HDD Connectors	JLAN1	LAN Jumper
JFP1	Front Panel Connectors	AGP1	Accelerated Graphics Port Slot

Jumper Setting

Jumper	Function and settings
JBAT1	1-2 Normal* 2-3 Clear CMOS
JBIOS1	BIOS Flash Locked* BIOS Flash Unlocked
JLAN1	Enable Disable
JAUD1	If you do not want to connect to the front audio header, pins 5 & 6, 9 & 10 have to be jumpered in order to have signal output directed to the rear audio ports. Otherwise, the Line-Out connector on the back panel will not function.

NOTE: *: Default Settings.

Main Board Layout
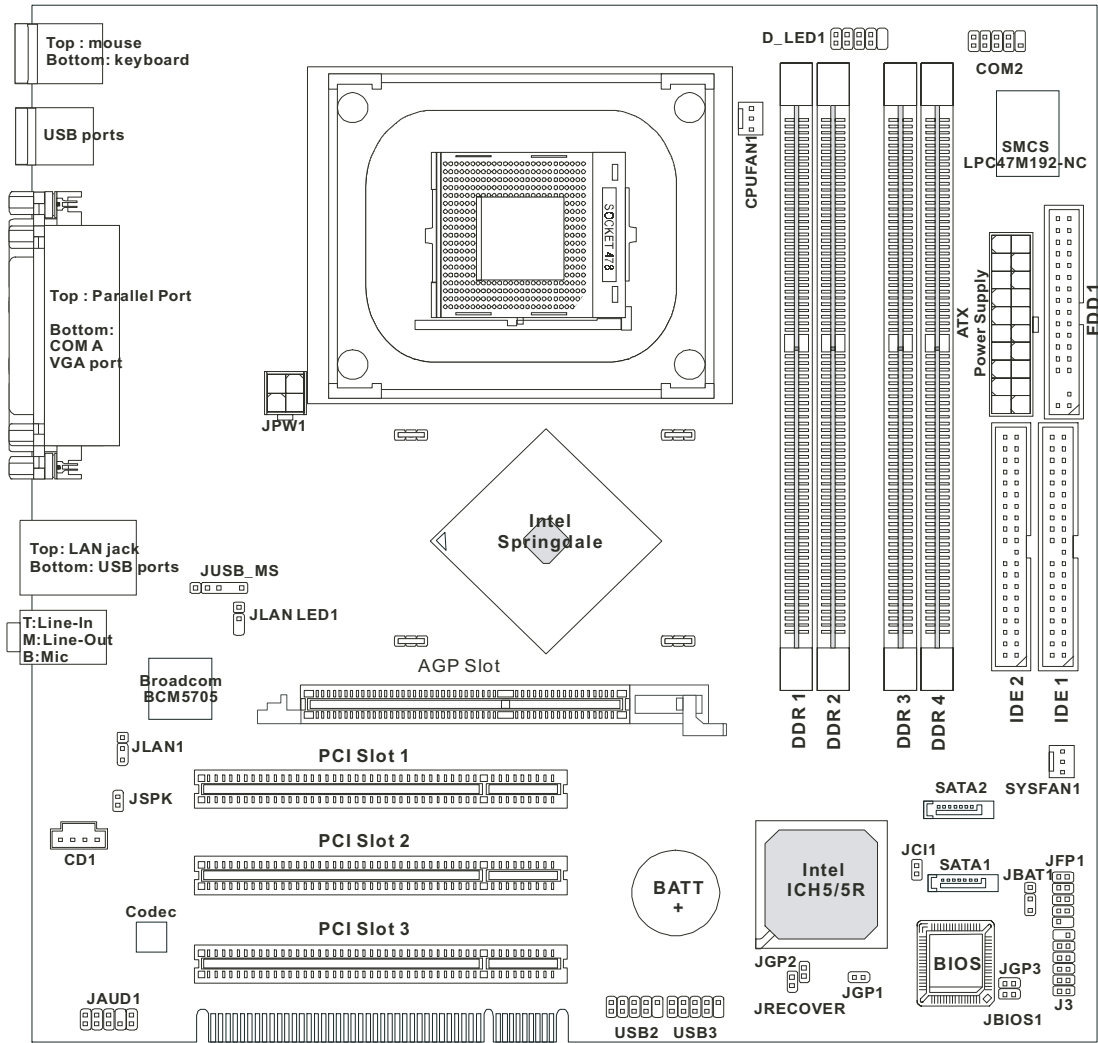
FRU (Field Replaceable Unit) List

This chapter gives you the FRU (Field Replaceable Unit) listing in global configurations of Veriton 7600GTR/GT/V, 5600GT/V and 3600GT/V. Refer to this chapter whenever ordering for parts to repair or for RMA (Return Merchandise Authorization).

IMPORTANT: Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel. For whatever reasons a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the local FRU list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

IMPORTANT: Please note that Acer Corporation sells only the parts listed in the following table. Please be reminded that though some parts are disassembled in Chapter 3 for demonstration purpose, Acer Corporation does not provide these parts.

NOTE: To scrap or to return the defective parts, you should follow the local government ordinance or regulations on how best to dispose it, or follow the rules set by your regional Acer office on how to return it.

NOTE: The number indicates the location shown on exploded diagram or "NS" indicates "Not shown" on it.

Veriton 7600GTR/7600GT/7600V Exploded Diagram
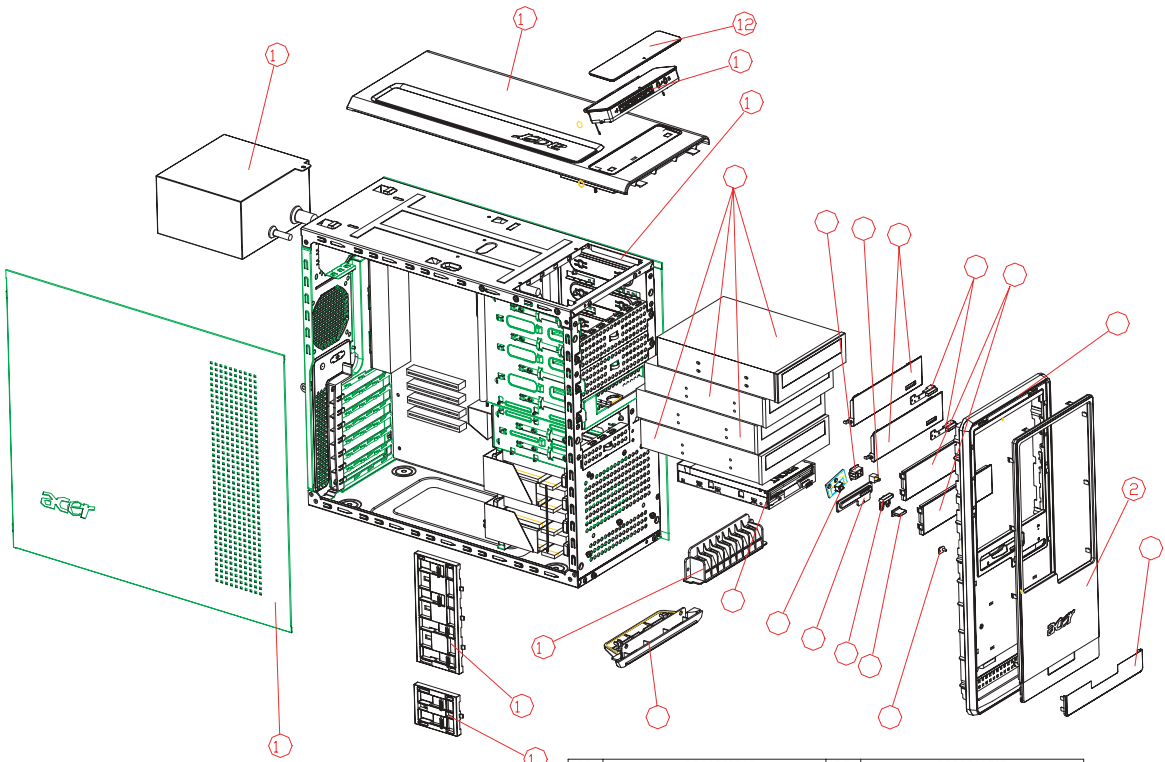
ITEM	DESCRIPTION		ITEM	DESCRIPTION	
1	AL DECORATE	3KT45-001	14	POWER SUPPLY	
2	FRONT-DECORATE	2Q561-024	15	RIGHT BKT	2G063-024
3	FRONT MAIN BEZEL	2Q561-001	16	CD-ROM-LOCK	2Q561-010
4	5.25" DOOR	2Q561-006	17	FDD-LOCK	2Q561-020
5	CD-ROM-BUTTON	2Q541-001	18	MT-HANDLE	2Q561-008
6	CD DOOR	2Q561-003	19	MT-FRONT-FOOT	2Q561-005
7	RESET SWITCH	4S346-004	20	FDD	4B077-001
8	RESET SWITCH-HOLDER	2Q549-020	21	POWER SWITCH BOARD	4J531-002
9	CD-ROM		22	POWER LENS	2Q561-022
10	PC2 CHASSIS		23	POWER BUTTON	2Q549-023
11	USB ASSY		24	FDD BUTTON	2Q549-014
12	USB COVER DECORATE	2Q561-014	25	FDD LENS	2Q549-016
13	TOP COVER USB ASSY	2ZW47-010	26		

Veriton 5600GT/5600V Exploded Diagram
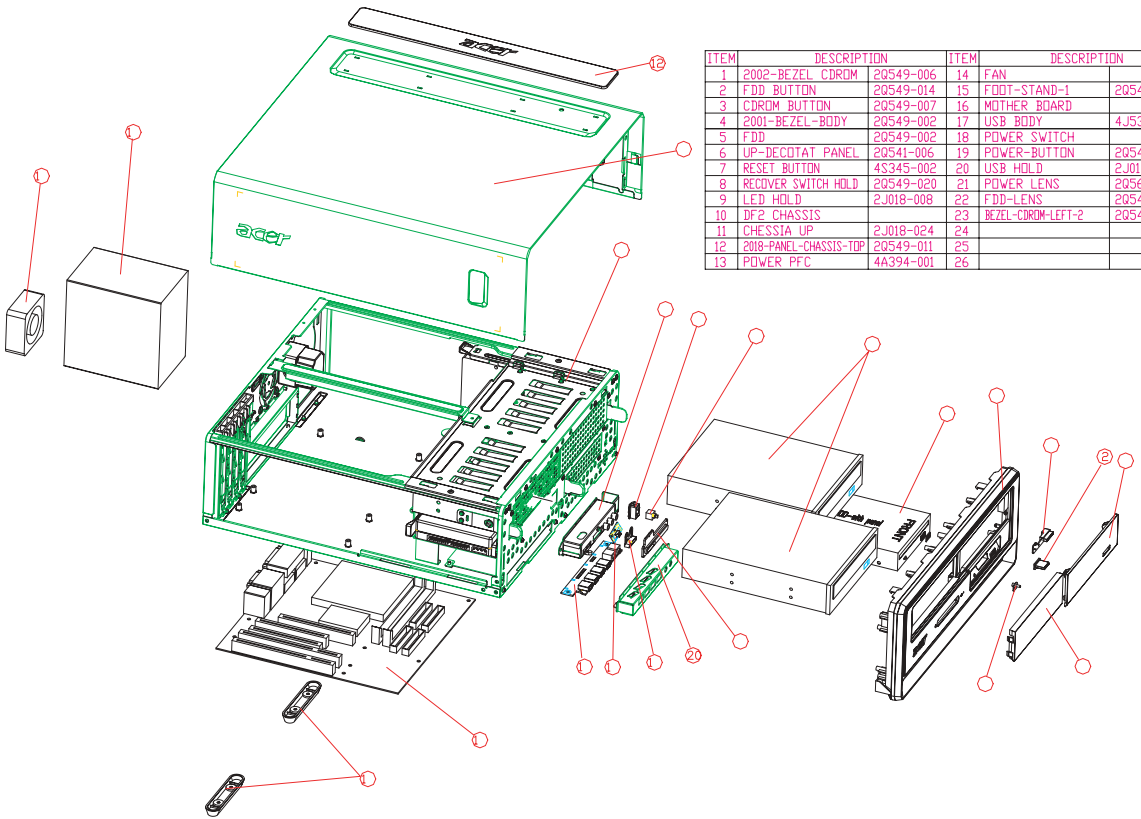
ITEM	DESCRIPTION		ITEM	DESCRIPTION	
1	2002-BEZEL CDROM	2Q549-006	14	FAN	
2	FDD BUTTON	2Q549-014	15	FOOT-STAND-1	2Q54
3	CDROM BUTTON	2Q549-007	16	MOTHER BOARD	
4	2001-BEZEL-BODY	2Q549-002	17	USB BODY	4J53
5	FDD	2Q549-002	18	POWER SWITCH	
6	UP-DECOTAT PANEL	2Q541-006	19	POWER-BUTTON	2Q54
7	RESET BUTTON	4S345-002	20	USB HOLD	2J018
8	RECOVER SWITCH HOLD	2Q549-020	21	POWER LENS	2Q56
9	LED HOLD	2J018-008	22	FDD-LENS	2Q54
10	DF2 CHASSIS		23	BEZEL-CDROM-LEFT-2	2Q54
11	CHESSIA UP	2J018-024	24		
12	2018-PANEL-CHASSIS-TOP	2Q549-011	25		
13	POWER PFC	4A394-001	26		

Veriton 3600GT/3600V Exploded Diagram
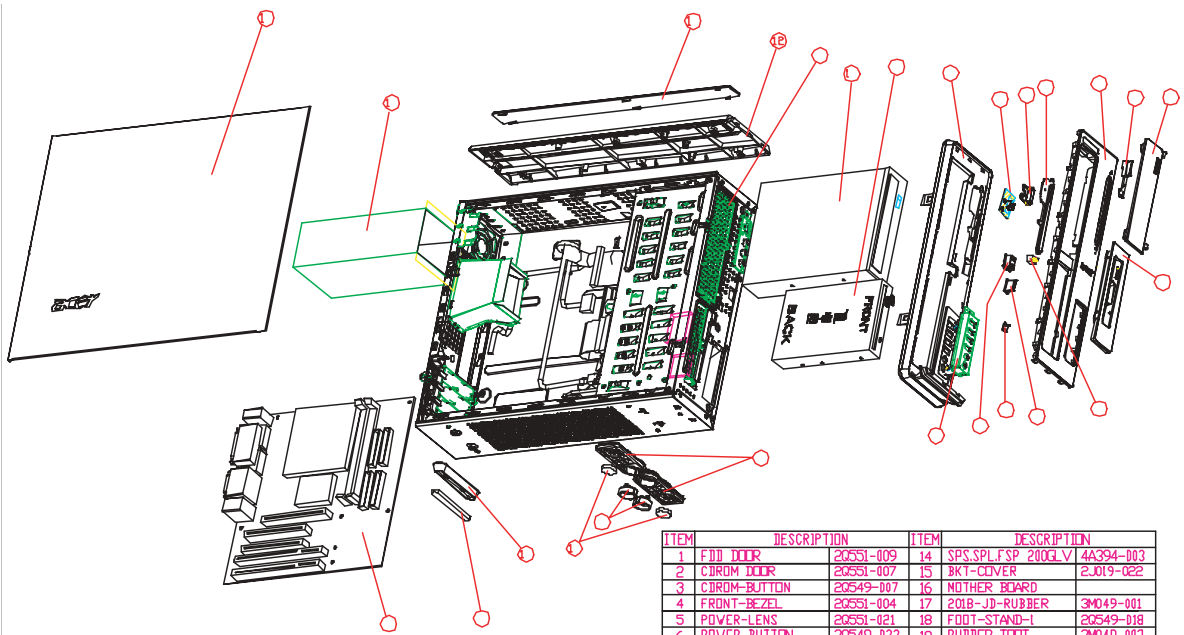
ITEM	DESCRIPTION		ITEM	DESCRIPTION	
1	FDD DOOR	2Q551-009	14	SPS.SPL.FSP 200GLV	4A394-003
2	CDROM DOOR	2Q551-007	15	BKT-COVER	2JO19-022
3	CDROM-BUTTON	2Q549-007	16	MOTHER BOARD	
4	FRONT-BEZEL	2Q551-004	17	201B-JD-RUBBER	3M049-001
5	POWER-LENS	2Q551-021	18	FOOT-STAND-1	2Q549-018
6	POWER BUTTON	2Q549-023	19	RUBBER-TOOT	3M049-003
7	POWER SWITCH BOARD	4J531-002	20	FOOT-STAND-3	2Q551-019
8	FRONT-COVER	2Q551-003	21	TOOT-STAND-2	2Q551-018
9	FDD	4B066-001	22	S-USB-EMI SHIELD	2JO19-004
10	CD-ROM		23	RECOVER-SWITCH-HOLDER	2Q549-020
11	DH2 CHASSIS		24	FDD-LENS	2Q549-016
12	TOP-COVER	2Q551-001	25	FDD-BUTTON	2Q549-014
13	TOP-COVER-COSS	2Q551-002	26	RECOVER-SWITCH	4S349-001

Picture		Part Name	Part Number
CPU/Processor			
		CELERON 2.0G SOCKET 478, D1	KC.DCD01.20A
		Celeron 2.4G Socket 478, D1	KC.DCD01.24A
		Celeron 2.5G Socket 478, D1	KC.DCD01.25A
		Celeron 2.6G Socket 478, D1	KC.DCD01.26A
		Celeron 2.7G Socket 478, D1	KC.DCD01.27A
		Celeron 2.8G Socket 478, D1	KC.DCD01.28A
		Northwood 2.4G Socket 478	KC.DP001.24C
		Northwood 2.6G Socket 478	KC.DP001.26C
		Northwood 2.8G Socket 478	KC.DP001.28C
		Northwood 3.0G Socket 478	KC.DP001.30C
		Northwood 3.06G Socket 478, D1	KC.DPD01.306
		Northwood 3.20G Socket 478	KC.DP001.32C
Memory			
		MICRON DDR 333 256MB/DIE, 0.13U CL=2.5	KN.25604.007
		MICRON DDR 333 512MB/DIE, 0.13U CL=2.5	KN.51204.005
		MICRON DDR 400 256MB/DIE, 0.13U CL=2.5	KN.25604.006
		MICRON DDR 400 512MB/DIE, 0.13U CL=2.5	KN.51204.009
		INFINEON DDR333 128MB 0.11U, CL=2.5	KN.12802.008
		INFINEON DDR333 256MB 0.14U 32M*8 *8	KN.25602.005
		INFINEON DDR333 256MB 0.11U, CL=2.5	KN.25602.010
		INFINEON DDR333 512MB 0.14U 64M*8 *8	KN.51202.004
		INFINEON DDR333 512MB 0.11U 64M*8 *8	KN.51202.008
		INFINEON DDR333 1GB 0.14U 64M*8*16 CL2	KN.1GB02.004
		INFINEON DDR400 128MB 0.14U 32M*8*16 CL=3	KN.12802.005
		INFINEON DDR400 256MB 0.14U 32M*8*16 CL=3	KN.25602.008
		INFINEON DDR400 512MB 0.14U 32M*8*16 CL=3	KN.51202.006
		NANYA DDR333 128MB 0.14U 16M*16 *4	KN.12803.005
		NANYA DDR333 256MB 0.14U, CL2.5	KN.25603.008
		NANYA DDR333 512MB 0.14U	KN.51203.004
		NANYA DDR400 128MB	KN.12803.014
		NANYA DDR400 256MB	KN.25603.011
		NANYA DDR400 512MB , CL3	KN.51203.007
Optical Drive			
		CD-ROM DRIVE 52X LITEON CD52-LG0/LTN-652S WHITE	KD.52X09.002
		CD-ROM DRIVE 52X MSI MS-8152 BLACK	KD.0520B.003
		CD-ROM DRIVE 52X BTC F564E BLACK	KD.0520A.001
		CD-RW DRIVE 52XR 24XRW 52XW LITE-ON LTR-52246S BLACK	KR.05201.001
		CD-RW DRIVE 52XR 32XRW 52XW HLDS GCE-8523B BLACK	KR.0520C.001
		DVD-ROM DRIVE 16X PIONEER DVD-121RD WHITE	KV.16X05.003
		DVD-ROM DRIVE 16X LITE-ON XJ-HD166S BLACK	KV.01604.001
		DVD/CDRW COMBO DRIVE 48X HLDS GCC-4480B WHITE	KO.48X0A.001
		COMBO DRIVE 48X HLDS GCC-4480B BLACK	KO.0480A.001
		DVD SUPER MULTI DVD+/- RW DVD-RAM 4X/2.4X/2X/2X HLDS GSA-4040B WHITE	KU.0040C.001
		DVD SUPER MULTI DVD+/- RW DVD-RAM 4X/2.4X/2X/2X HLDS GSA-4040B BLACK	KU.0040D.007

Picture		Part Name	Part Number
Hard Disk Drive			
		HDD 80GB 7200RPM SATA SEAGATE ALPINE ST380013AS	KH.08001.005
		HDD 120G 7200RPM SATA SEAGATE ALPINE ST3120026AS	KH.12001.005
		HDD 160G 7200RPM SATA SEAGATE ALPINE ST3160023AS	KH.16001.004
		HDD 40GB/5400RPM/ATA-100 /SEAGATE C2 ST340015A	KH.04001.002
		HDD U9 80G 5400RPM SEAGARE ST380012A	KH.08001.002
		HDD 120GB 5400RPM ATA-100 SEAGATE U9 ST3120025A	KH.12001.002
		HDD 40GB 7200RPM SEAGATE CUDA VI ALPINE ST340014A	KH.04001.001
		HDD 80GB 7200RPM SEAGATE CUDA VI ALPINE ST380011A	KH.08001.001
		HDD 120GB 7200RPM SEAGATE CUDA VI ALPINE SEAGATE ST3120022A	KH.12001.001
		HDD 40GB 3.5 IN. 5400RPM WD 400EB-42CPF0	KH.04008.004
		HDD 40GB 3.5 IN. 7200RPM WD XL40S 400BB-00DEA0	KH.04008.002
		HDD 80GB 7200RPM ATA100 WD WD800BB-00DKA0	KH.08008.003
		HDD 80GB 5400RPM WD PROTEGE WD800EB-00DJF0	KH.08008.004
		HDD 120GB 7200RPM WD CAVIAR WD1200BB-00DWA0	KH.12008.001
Floppy Disk Drive			
		FDD 1.44MB PANASONIC JU-256A048P	KF.25602.002
		FDD 1.44MB MITSUMI D353M3D-R694005	KF.35301.001
		FDD 1.44MB NEC FD-1231T-STD-R2	KF.12301.001
Cables			

Picture		Part Name	Part Number
		For VT3600	
		FDD CABLE 34PIN 2CON	50.V02VF.301
		HDD IDE CABLE 40PIN (SHORT)	50.V02VF.302
		ODD CABLE 40PIN (LONG)	50.V02VF.303
		AUDIO CABLE 10PIN 2CON	50.V02VF.304
		USB CABLE 10PIN 2CON	50.V02VF.305
		LED CABLE (LAN, POWER/ HDD) POWER BUTTON BOARD W/ BRACKET	50.V02VF.306
		RESET CABLE	50.V02VF.307
		INTRUSION ALARM CABLE 2PIN	50.V02VF.308
		LAN CABLE	50.V02VF.309
		POWER/ HDD LED CABLE	50.V02VF.310
		For VT5600	
		FDD CABLE 34PIN 2CON	50.V02VF.701
		HDD/ODD IDE CABLE 40PIN 3CON	50.V02VF.501
		AUDIO CABLE 10PIN 2CON	50.V02VF.502
		USB CABLE 10PIN 2CON	50.V02VF.503
		LED CABLE (LAN/ POWER HDD), RESET CABLE, INTRUSION ALARM CABLE W/ BRACKET MODULE	50.V02VF.504
		RESET CABLE	50.V02VF.505
		INTRUSION ALARM CABLE 2PIN	50.V02VF.506
		POWER/ HDD LED CABLE	50.V02VF.507
		LAN CABLE	50.V02VF.508
		For VT7600	
		FDD CABLE 34PIN 2CON	50.V02VF.701
		HDD IDE CABLE 40PIN (SHORT)	50.V02VF.702
		ODD IDE CABLE 40PIN (LONG)	50.V02VF.703
		AUDIO CABLE 10PIN 2CON	50.V02VF.704
		USB CABLE 10PIN 2CON	50.V02VF.705
		RESET CABLE	50.V02VF.706
		LED/ POWER BUTTON CABLE W/ BRACKET	50.V02VF.707
		INTRUSION ALARM CABLE 2PIN	50.V02VF.708
		S-ATA CABLE 7PIN 2CON	50.V02VF.709
		S-ATA POWER CABLE 2CON	50.V02VF.710
Main board			
		MB J89MR (865G+ICH5R) for VT7600GTR	MB.V0205.001
		MB J89MG (865G+ICH5) kit for VT76/56/3600GT	MB.V0305.001
		MB J89MV (865GV+ICH5) kit for VT76/56/3600V	MB.V0405.001
Boards			
		For VT3600	
		DAUGHTER BOARD 4USB, 2AUDIO	55.V02VF.301
		POWER BUTTON BOARD	55.V02VF.302
		For VT5600	
		DAUGHTER BOARD 4USB, 2AUDIO	55.V02VF.702
		POWER BUTTON BOARD	55.V02VF.302
		For VT7600	
		DAUGHTER BOARD MODULE	55.V02VF.701
		DAUGHTER BOARD 4USB, 2AUDIO	55.V02VF.702
		POWER BUTTON BOARD	55.V02VF.302
		EXTENSION DAUGHTER BOARD	55.V02VF.703

Picture		Part Name	Part Number
Add-on Card			
		VGA CARD RADEON 9200 64MB DDR LP W/TV-OUT NTSC/LP BRACKET FIC TI-4200-8X	VG.A9207.003
		VGA CARD RADEON 9200 64MB DDR LP W/TV-OUT PAL/LP BRACKET FIC TI-4200-8X	VG.A9207.004
		VGA CARD FX 5200 64MB W/TW-OUT PAL LP BRACKET LEADTEK LR2967	VG.29604.005
		VGA CARD FX5200 64MB W/TW-OUT NTSC LP BRACKET LEADTEK LR2967	VG.29604.006
		VGA CARD XABRE200 AGP 8X 32M LP BRACKET	VG.20005.002
		MODEM CARD 56K ASKEY 1456VQH76D(INT)	FX.14501.002
		MODEM CARD F-1156I(+)/R12(EU)LOW-PROFILE GVC	FX.56I02.004
Pointing Device			
		CORDED MOUSE USB OPTICAL GENIUS POWERSCROLL EYE SILVER	MS.PSE04.005
		CORDED MOUSE PS2 2 BUTTON WHEEL GENIUS POWERSCROLL BLACK	MS.PSE04.006
		CORDED MOUSE USB WHEEL STANDARD GENIUS BLACK	MS.PSE04.007
Keyboard			
		PS/2 KEYBOARD, KBP2971, US VER., 104KEYS	KB.KBP03.066
		PS/2 KEYBOARD, KBP2971, T.CHINESE VER., 104KEYS	KB.KBP03.067
		PS/2 KEYBOARD, KBP2971, ARABIC VER., 104KEYS	KB.KBP03.068
		PS/2 KEYBOARD, KBP2971, THAI VER., 104KEYS	KB.KBP03.069
		PS/2 KEYBOARD, KBP2971, SPANISH/US VER., 105KEYS	KB.KBP03.070
		PS/2 KEYBOARD, KBP2971, INT'L US VER., 104KEYS	KB.KBP03.071
		PS/2 KEYBOARD, KBP2971, CANADIAN/FRENCH VER., 105KEYS	KB.KBP03.072
		PS/2 KEYBOARD, KBP2971, BRAZILIAN VER., 107KEYS	KB.KBP03.073
		PS/2 KEYBOARD, KBP2971, UK VER., 104KEYS	KB.KBP03.074
		PS/2 KEYBOARD, KBP2971, FRENCH VER., 105KEYS	KB.KBP03.075
		PS/2 KEYBOARD, KBP2971, GERMANY VER., 105KEYS	KB.KBP03.076
		PS/2 KEYBOARD, KBP2971, ITALIAN VER., 105KEYS	KB.KBP03.077
		PS/2 KEYBOARD, KBP2971, SWISS VER., 105KEYS	KB.KBP03.078
		PS/2 KEYBOARD, KBP2971, SWEDISH VER., 105KEYS	KB.KBP03.079
		PS/2 KEYBOARD, KBP2971, BELGIUM VER., 105KEYS	KB.KBP03.080
		PS/2 KEYBOARD, KBP2971, DUTCH VER., 105KEYS	KB.KBP03.081
		PS/2 KEYBOARD, KBP2971, SPANISH VER., 105KEYS	KB.KBP03.083
		PS/2 KEYBOARD, KBP2971, PORTUGESE VER., 105KEYS	KB.KBP03.084
		PS/2 KEYBOARD, KBP2971, ICELAND VER., 105KEYS	KB.KBP03.085
		PS/2 KEYBOARD, KBP2971, NORWEGIAN VER., 105KEYS	KB.KBP03.086
		PS/2 KEYBOARD, KBP2971, HEBREW VER., 105KEYS	KB.KBP03.087
		PS/2 KEYBOARD, KBP2971, POLISH VER., 105KEYS	KB.KBP03.088
		PS/2 KEYBOARD, KBP2971, SLOVENIAN VER., 105KEYS	KB.KBP03.089
		PS/2 KEYBOARD, KBP2971, SLOVAKIAN VER., 105KEYS	KB.KBP03.090
		PS/2 KEYBOARD, KBP2971, TURKEY VER., 105KEYS	KB.KBP03.091
		PS/2 KEYBOARD, KBP2971, RUSSIAMVER., 104KEYS	KB.KBP03.092
		PS/2 KEYBOARD, KBP2971, HUNGARIA VER., 105KEYS	KB.KBP03.093
		PS/2 KEYBOARD, KBP2971, GREEK VER., 104KEYS	KB.KBP03.094

Picture		Part Name	Part Number
		USB KB(GRAY), KU0355, US VER., 104KEYS	KB.KUS03.026
		USB KB(GRAY), KU0355, T.CHINESE VER., 104KEYS	KB.KUS03.027
		USB KB(GRAY), KU0355, INT'L US VER., 104 KEYS	KB.KUS03.028
		USB KB (GRAY), KU0355, ARABIC VER., 104 KEYS	KB.KUS03.029
		USB KB (GRAY), KU0355, THAI VER., 104 KEYS	KB.KUS03.030
		USB KB (GRAY), KU0355, GERMANY VER., 105 KEYS	KB.KUS03.031
		USB KB (GRAY), KU0355, ITALIAN VER., 105 KEYS	KB.KUS03.032
		USB KB (GRAY), KU0355, FRENCH VER., 105 KEYS	KB.KUS03.033
		USB KB (GRAY), KU0355, SWEDEN VER., 105 KEYS	KB.KUS03.034
		USB KB (GRAY), KU0355, UK VER., 104 KEYS	KB.KUS03.035
		USB KB (GRAY), KU0355, SPANISH VER., 105 KEYS	KB.KUS03.036
		USB KB (GRAY), KU0355, DUTCH VER., 105 KEYS	KB.KUS03.037
		USB KB (GRAY), KU0355, PORTUGESE VER., 105 KEYS	KB.KUS03.038
		USB KEYBOARD, KU0355, SPANISH/US VER., 105KEYS	KB.KUS03.039
		USB KEYBOARD, KU0355, CANADIAN/FRENCH VER., 105KEYS	KB.KUS03.040
		USB KEYBOARD, KU0355, BRAZILIAN VER., 107KEYS	KB.KUS03.041
		USB KEYBOARD, KU0355, SWISS VER., 105KEYS	KB.KUS03.042
		USB KEYBOARD, KU0355, BELGIUM VER., 105KEYS	KB.KUS03.043
		USB KEYBOARD, KU0355, ICELAND VER., 105KEYS	KB.KUS03.045
		USB KEYBOARD, KU0355, NORWEGIAN VER., 105KEYS	KB.KUS03.046
		USB KEYBOARD, KU0355, HEBREW VER., 105KEYS	KB.KUS03.047
		USB KEYBOARD, KU0355, POLISH VER., 105KEYS	KB.KUS03.048
		USB KEYBOARD, KU0355, SLOVENIAN VER., 105KEYS	KB.KUS03.049
		USB KEYBOARD, KU0355, SLOVAKIAN VER., 105KEYS	KB.KUS03.050
		USB KEYBOARD, KU0355, TURKEY VER., 105KEYS	KB.KUS03.051
		USB KEYBOARD, KU0355, RUSSIAMVER., 104KEYS	KB.KUS03.052
		USB KEYBOARD, KU0355, HUNGARIA VER., 105KEYS	KB.KUS03.053
		USB KEYBOARD, KU0355, GREEK VER., 104KEYS	KB.KUS03.054
		USB KEYBOARD, KU0355, CZECH, 104KEYS	KB.KUS03.055
		USB KEYBOARD, KU0355, JAPANESE, 109KEYS	KB.KUS03.056
		USB KEYBOARD, KU0355, TURKEY-F, 105KEYS†	KB.KUS03.057
		USB KEYBOARD, KU0355, S. CHINESE,104KEYS	KB.KUS03.060
		USB KB(SILVER), KU0355, US VER., 104KEYS	KB.KUP03.034
		USB KB(SILVER), KU0355, T.CHINESE VER., 104KEYS	KB.KUP03.035
		USB KB(SILVER), KU0355, INT'L US VER., 104 KEYS	KB.KUP03.036
		USB KB (SILVER), KU0355, ARABIC VER., 104 KEYS	KB.KUP03.037
		USB KB (SILVER), KU0355, THAI VER., 104 KEYS	KB.KUP03.038
		USB KB (SILVER), KU0355, GERMANY VER., 105 KEYS	KB.KUP03.039
		USB KB (SILVER), KU0355, ITALIAN VER., 105 KEYS	KB.KUP03.040
		USB KB (SILVER), KU0355, FRENCH VER., 105 KEYS	KB.KUP03.041
		USB KB (SILVER), KU0355, SWEDEN VER., 105 KEYS	KB.KUP03.042
		USB KB (SILVER), KU0355, UK VER., 104 KEYS	KB.KUS03.001
		USB KB (SILVER), KU0355, SPANISH VER., 105 KEYS	KB.KUS03.002
		USB KB (SILVER), KU0355, DUTCH VER., 105 KEYS	KB.KUS03.003
		USB KB (SILVER), KU0355, PORTUGESE VER., 105 KEYS	KB.KUS03.004

Picture		Part Name	Part Number
		USB KEYBOARD, KU0355, SPANISH/US VER., 105KEYS	KB.KUS03.008
		USB KEYBOARD, KU0355, CANADIAN/FRENCH VER., 105KEYS	KB.KUS03.009
		USB KEYBOARD, KU0355, BRAZILIAN VER., 107KEYS	KB.KUS03.010
		USB KEYBOARD, KU0355, SWISS VER., 105KEYS	KB.KUS03.011
		USB KEYBOARD, KU0355, BELGIUM VER., 105KEYS	KB.KUS03.012
		USB KEYBOARD, KU0355, ICELAND VER., 105KEYS	KB.KUS03.014
		USB KEYBOARD, KU0355, NORWEGIAN VER., 105KEYS	KB.KUS03.015
		USB KEYBOARD, KU0355, HEBREW VER., 105KEYS	KB.KUS03.016
		USB KEYBOARD, KU0355, POLISH VER., 105KEYS	KB.KUS03.017
		USB KEYBOARD, KU0355, SLOVENIAN VER., 105KEYS	KB.KUS03.018
		USB KEYBOARD, KU0355, SLOVAKIAN VER., 105KEYS	KB.KUS03.019
		USB KEYBOARD, KU0355, TURKEY VER., 105KEYS	KB.KUS03.020
		USB KEYBOARD, KU0355, RUSSIAMVER., 104KEYS	KB.KUS03.021
		USB KEYBOARD, KU0355, HUNGARIA VER., 105KEYS	KB.KUS03.022
		USB KEYBOARD, KU0355, GREEK VER., 104KEYS	KB.KUS03.023
		USB KEYBOARD, KU0355, CZECH, 104KEYS	KB.KUS03.058
		USB KEYBOARD, KU0355, JAPANESE, 109KEYS	KB.KUS03.059
		USB KEYBOARD, KU0355, TURKEY-F, 105KEYS†	KB.KUS03.020
		USB KEYBOARD, KU0355, S. CHINESE,104KEYS	KB.KUS03.061
		WIRELESS KB (GRAY), WUR0355, US VER., 104 KEYS W/I MOUSE, RECEIVER	KB.WUR03.018
		WIRELESS KB (GRAY), WUR0355, T. CHINESE VER., 104 KEYS W/I MOUSE, RECEIVER	KB.WUR03.019
		WIRELESS KB (GRAY), WUR0355, INT'L US VER., 104 KEYS W/I MOUSE, RECEIVER	KB.WUR03.020
		WIRELESS KB (GRAY), WUR0355, ARABIC VER., 104 KEYS W/I MOUSE, RECEIVER	KB.WUR03.021
		WIRELESS KB (GRAY), WUR0355, THAIS VER., 104 KEYS W/ I MOUSE, RECEIVER	KB.WUR03.022
		WIRELESS KB (GRAY), WUR0355, GERMANY VER., 105 KEYS W/I MOUSE, RECEIVER	KB.WUR03.023
		WIRELESS KB (GRAY), WUR0355, ITALIAN VER., 105 KEYS W/I MOUSE, RECEIVER	KB.WUR03.024
		WIRELESS KB (GRAY), WUR0355, FRENCH VER., 105 KEYS W/I MOUSE, RECEIVER	KB.WUR03.025
		WIRELESS KB (GRAY), WUR0355, SWEDEN VER., 105 KEYS W/I MOUSE, RECEIVER	KB.WUR03.026
		WIRELESS KB (GRAY), WUR0355, SPANISH VER., 105 KEYS W/I MOUSE, RECEIVER	KB.WUR03.027
		WIRELESS KB (GRAY), WUR0355, DUTCH VER., 105 KEYS W/I MOUSE, RECEIVER	KB.WUR03.028
		WIRELESS KB (GRAY), WUR0355, PORTUGESE VER., 105 KEYS W/I MOUSE, RECEIVER	KB.WUR03.029
		WIRELESS KB (GRAY), WUR0355, UK VER., 104 KEYS W/I MOUSE, RECEIVER	KB.WUR03.030
Power Supply			
		POWER SUPPLY 200W W/ PFC FSP FSP200-50GLV	PY.25008.009
		POWER SUPPLY 200W W/O PFC FSP200-50GLV	PY.25008.010
		POWER SUPPLY 250W W/ PFC FSP250-60THA(1PF)	PY.25008.001
		POWER SUPPLY250W W/O FSP250-60THA(1)	PY.25008.002
Case/Cover/Bracket Assembly			

Picture		Part Name	Part Number
		For VT3600	
		LEFT COVER	60.V02VF.301
		FRONT BEZEL W/ ODD DOOR, FDD COVER, FDD BUTTON	60.V02VF.302
		ODD DOOR W BUTTON	42.V02VF.301
		FDD BUTTON	42.V02VF.302
		FDD COVER W LENS	42.V02VF.303
		UPPER COVER	60.V02VF.303
		RETENTION MODULE W NAIL 4PCS	42.V02VF.304
		IO BRACKET HOLDER	42.V02VF.305
		CHASSIS W IO BRACKET, DB BRACKET, LED BRACKET WO IO SHIELD	60.V02VF.004
		IO SHIELD	TBD
		FDD HOLDER	33.V02VF.301
		ODD HOLDER (DISGUISE)	33.V02VF.302
		HDD HOLDER ASSY(LEFT)	42.V02VF.306
		HDD HOLDER ASSY(RHGHT)	42.V02VF.307
		For VT5600	
		FRONT BEZEL W/ ODD DOOR, 5.25 EMPTY COVER, FDD BUTTON	60.V02VF.501
		ODD DOOR	42.V02VF.501
		FDD BUTTON	42.V02VF.302
		UPPER COVER	60.V02VF.502
		5.25" EMPTY COVER	42.V02VF.502
		RETENTION MODULE W NAIL 4PCS	42.76DV3.001
		IO BRACKET HOLDER	42.V02VF.503
		IO BRACKET	33.V02VF.501
		I/O SHIELD	33.76DV3.001
		CHASSIS W IO BRACKET, DB BRACKET, LED BRACKET WO IO SHIELD	60.V02VF.503
		FDD HOLDER	33.V02VF.301
		ODD HOLDER (OPEN)	33.V02VF.502
		ODD HOLDER (CONCEALMENT)	33.V02VF.302
		HDD HOLDER ASSY(LEFT)	42.V02VF.306
		HDD HOLDER ASSY(RHGHT)	42.V02VF.307
		For VT7600	
		ODD DOOR (DISGUISE)	60.V02VF.702
		5.25" EMPTY COVER	42.V02VF.701
		FDD BUTTON	42.V02VF.702
		UPPER COVER	42.V02VF.703
		DAUGHTER BOARD TOP COVER ASSY BLACK	60.V02VF.703
		DAUGHTER BOARD TOP COVER BLACK	42.V02VF.704
		DAUGHTER BOARD PLATE BLACK (PLASTIC)	42.V02VF.705
		DAUGHTER BOARD PLATE (METAL)	42.V02VF.706
		I/O SHIELD	33.V02VF.701
		I/O BRACKET	33.V02VF.702
		RETENTION MODULE W NAIL 4PCS	33.V02VF.703
		IO BRACKET HOLDER	42.V02VF.304
		CHASSIS W IO BRACKET, DB BRACKET, LED BRACKET WO IO SHIELD	42.V02VF.707
			60.V02VF.704
		FDD HOLDER	33.V02VF.704
		ODD HOLDER (DISGUISE)	33.V02VF.705
		ODD HOLDER (OPEN)	33.V02VF.706
		HDD HOLDER ASSY(RIGHT)	42.V02VF.708
		HDD HOLDER ASSY(LEFT)	42.V02VF.709

Picture		Part Name	Part Number
Speaker			
		INTERNAL SPEAKER 38MM NEOSONIC	SP.CRB04.001
		SPEAKER 5W+5W ACTIVE 12V PHILIPS A201S	SP.20101.001
Fan Sink			
		SYSTEM FAN W AIR DUCK	TBD
		HEATSINK W LATCH	HI.V020B.005
		HEATSINK W LATCH	HI.V020B.004
Foot Stand			
		FOOT STAND (PLASTIC)	47.V02VF.301
Screws			
		SPS SCREW	86.RC9VF.001
		MAIN BOARD SCREW	86.RC9VF.002
		UPPER COVER SCREW	86.V02VF.301
		SYSTEM FAN SCREW	86.V02VF.302
		INTRUSION ALARM SCREW	86.V02VF.303
		ODD DOOR SPRING	86.V02VF.304
		THUMB SCREW	86.V02VF.305

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Model Definition and Configuration

Veriton 7600GTR/7600GT/7600V, 5600GT/5600V, 3600GT/3600V

1. **Project Name: Trumpet**

2. **Description**

Trumpet series is positioned to be the first Main Board product that supports the latest Intel® Chipset Springdale-G/GV technology with DDR DIMM module and Hyper-Threading Techology. As a technology leader in the PC market, Bassoon stands for not only the image of the best performance product for Intel's next generation mainstream platform but also a real time to market product for all customers' demand to win the market entrance advantage.

Micro ATX Main board, using Intel® Pentium 4 Processor in the 478 Pin package, delivers a mainstream desktop platform solution.

With Intel® chipsets Springdale-G/GV and ICH5/5R, VT7600GR series provides the processor interface, DDR (Double Data rate) interface, and HUB interface. The CPU interface supports the Intel® Pentium 4 processor subset of the Extended Mode of Scalable Bus Protocol. Intel® Springdale-G/GV is optimized for theIntel® Pentium 4 processor and Intel® Northwood processor. It supports double data rate DRAM at 400MHz/ 333MHz/ 266MHz.

Test Compatible Components

This computer's compatibility is a test plan released by Acer Internal Testing Department. Once the final report is available, this chapter will be revised accordingly.

Microsoft Windows XP Environment Test

Item	Specifications
Processor	Intel Celeron 2.4G / 2.5G / 2.6G / 2.7G / 2.8G Socket 478
	Intel Northwood 2.4G / 2.6G / 2.8G / 3.0G / 3.06G D1 / 3.2G Socket 478
Memory	Infineon DDR 333 256MB 0.11u CL=2.5
	Infineon DDR400 128MB 0.14u 32M*8*16 CL=3
	Infineon DDR400 256MB 0.14u 32M*8*16 CL=3
	Infineon DDR400 512MB 0.14u 32M*8*16 CL=3
	Nanya DDR 333 128MB 0.14u 16M*16 *4
	Nanya DDR 333 256MB 0.14u CL2.5
	Nanya DDR 333 512MB 0.14u CL2.5
	Nanya DDR 400 256MB
CPU Fan Sink	up to 2.8G standard
	above 2.8G standard
FDD	Panasonic FDD 1.44MB 1"H
	Mitsumi 3 mode FDD 1.44MB
	NEC 3 mode FDD 1.44MB
HDD (S-ATA)	Seagate Barracuda (Alpine) SATA 80G 7200RPM
	Seagate Barracuda (Alpine) SATA 120G 7200RPM
	Seagate Barracuda (Alpine) SATA 160G 7200RPM
IDE Cable	Ultra 100 (3 CONN) (150+300)
FDD Cable	FDD cable 34P
Audio Cable	Audio Cable(4 pin)
	Audio Cable(4 pin) - clone Y cable
S-ATA Cable	MSI S-ATA cable for H80/H40/H360
	MSI S-ATA power cable (2 conn) for H80/H40/H360
12V DC SPK Cable	MSI 12V DC jack cable for H80/H40/H360
Internal USB Cable	MSI Internal USB cable with H80/H40 PCI bracket
One button Recovery	MSI One button recovery cable for H80/H40/H360
Intrusion Alert Module	MSI Intrusion alert module for H80/H40
CD-ROM	Liteon 52X
	MSI 52X
CD-RW	Liteon 52X
	MSI 52X
DVD-ROM	Pioneer 16X/40X
	Liteon 16X
	HLDS 16X DVD-ROM, Acer Color, w/o logo
Combo	HLDS 48X
DVD-RW	Pioneer 4/2/16/8, 12/32
DVD-Dual	NEC 4X DVD-Dual, Acer color, w/o Acer logo
	Pioneer 4X DVD-Dual, Acer color, w/o Acer logo
DVD Super Multi	HLDS 4X DVD Super Multi (RAM, -R, +R)
Daughter board	MSI USB/AUDIO Board for H80/H40/H360
	MSI Front USB2.0 DB USB cable
	MSI Front USB2.0 DB standard Audio cable (10pin)
Extension Board	MSI Extension daughter board
Debug-Connector Bracket	Debug LED bracket/1 x Com port/Cables for H80/H40
Mouse	Genius Mouse USB Wheel Standard
	Genius Mouse USB Wheel Optical

Item	Specifications
VGA Card	FIC Radeon 9200 64MB DDR LP W/TV-OUT NTSC/ATX bracket
	FIC Radeon 9200 64MB DDR LP W/TV-OUT PAL,ATX bracket
	MSI Ti-4200-8X 128M DDR ATX w/TV-out (PAL), ATX bracket
	MSI Ti-4200-8X 128M DDR ATX w/TV-out (NTSC), ATX bracket
	MX 440 (8X) 64M DDR LP w/TV-out (PAL), ATX bracket (w/LP BKT)
	MX 440 (8X) 64M DDR LP w/TV-out (NTSC), ATX bracket (w/LP BKT)
	VGA, ECS Xabre200 AGP 8X 32M ATX Bracket
DVI adapter card	Leadtek DVI Adapter Card for 845G chipset on-die VGA
Speaker	Charming Standard 2.1 Channel
	Charming Internal speaker
	Neosonic 3W+3W+15W, Active AC, Acer White 002
	Philips 5W+5W, ACTIVE, 12V
Wireless LAN Adapter	Zcom PCI 802.11 CARD
Modem Adapter	Askey V92/56K, HSFI ATX
	GVC Modem, F1156I(+)/R12(EU) ATX
Housing	Acer Genesis Mini-Tower HF
	Acer Genesis Mini-Tower 200W PFC
	Acer Genesis Mini-Tower 200W non PFC
Power Supply	FSP 200W PFC
	FSP 200W non PFC
Keyboard (PS/2)	Chicony Swiss, 105keys, Gift box w/palm KBP2971 PS/2
	Chicany US, 104keys, Gift box,w/palm KBP2971 PS/2
	Chicony Thailand , 104keys, Gift box w/palm KBP2971 PS/2
	Chicony Czech, 104keys, Gift box w/palm KBP2971 PS/2
	Chicony Arabic, 104keys, Gift box w/palm KBP2971 PS/2
	Chicony Belgium, 105keys, Gift box w/palm KBP2971 PS/2
	Chicony Chinese, 104keys, Gift box w/palm KBP2971 PS/2
	Chicony Danish, 105keys, Gift box w/palm KBP2971 PS/2
	Chicony Italian, 105keys, Gift box w/palm KBP2971 PS/2
	Chicony French, 105keys, Gift box w/palm KBP2971 PS/2
	Chicony Germany, 105keys, Gift box w/palm KBP2971 PS/2
	Chicony Hebrew, 104keys, Gift box w/palm KBP2971 PS/2
	Chicony Slovenian, 105keys, Gift box w/palm KBP2971 PS/2
	Chicony Slovakian, 104keys, Gift box w/palm KBP2971 PS/2
	Chicony Iceland, 105keys, Gift box w/palm KBP2971 PS/2
	Chicony Norwegian, 105keys, Gift box w/palm KBP2971 PS/2
	Chicony Portuguese, 105keys, Gift box w/palm KBP2971 PS/2
	Chicony Turkey-F, 105keys, Gift box w/palm KBP2971 PS/2
	Chicony Russian, 104keys, Gift box w/palm KBP2971 PS/2
	Chicony Spanish, 105keys, Gift box w/palm KBP2971 PS/2
	Chicony Turkey, 105keys, Gift box w/palm KBP2971 PS/2
	Chicony UK, 105keys, Gift box w/palm KBP2971 PS/2
	Chicony Candian/French, 105keys, Gift box w/palm KBP2971 PS/2
	Chicony Sweden, 105keys, Gift box w/palm KBP2971 PS/2
	Chicony Hungaria, 105keys, Gift box w/palm KBP2971 PS/2
	Chicony Greek, 104keys, Gift box w/palm KBP2971 PS/2
	Chicony Brazilian, 107keys, Gift box w/palm KBP2971 PS/2
	Chicony Japanese, 109keys, Gift box w/palm KBP2971 PS/2

Item	Specifications
Keyboard (USB)	Chicony Swiss, USB KB (acer 002), KUP0355, 105 keys, w/palm
	Chicony US ver., USB KB (acer 002), KUP0355, 104 keys, w/palm
	Chicony T. Chinese ver. USB KB (acer 002), KUP0355, 104 keys, w/palm
	Chicony Spanish/US, USB KB (acer 002), KUP0355, 105keys, w/palm
	Chicony Thailand , USB KB (acer 002),KUP0355, 104keys, w/palm
	Chicony International/US, USB KB (acer 002),KUP0355, 104key, w/palm
	Chicony Czech, USB KB (acer 002),KUP0355, 104keys, w/palm
	Chicony Arabic, USB KB (acer 002),KUP0355, 104keys, w/palm
	Chicony Belgium, USB KB (acer 002), KUP0355, 105 keys, w/palm
	Chicony Chinese, USB KB (acer 002), KUP0355,104keys, w/palm
	Chicony Danish, USB KB (acer 002), KUP0355,105keys, w/palm
	Chicony Italian, USB KB (acer 002), KUP0355,105keys, w/palm
	Chicony French, USB KB (acer 002), KUP0355,105keys, w/palm
	Chicony Germany, USB KB (acer 002), KUP0355, 105keys, w/palm
	Chicony Hebrew, USB KB (acer 002), KUP0355,104keys, w/palm
	Chicony Polish, USB KB (acer 002), KUP0355,105keys, w/palm
	Chicony Slovenian, USB KB (acer 002), KUP0355,105keys, w/palm
	Chicony Slovakian, USB KB (acer 002), KUP0355, 104keys, w/palm
	Chicony Iceland, USB KB (acer 002), KUP0355 105keys, w/palm
	Chicony Norwegian, USB KB (acer 002), KUP0355,105keys, w/palm
	Chicony Holland, USB KB (acer 002), KUP0355,105keys, w/palm
	Chicony Portuguese, USB KB (acer 002), KUP0355,105keys, w/palm
	Chicony Turkey-F, USB KB (acer 002), KUP0355,105keys, w/palm
	Chicony Russian, USB KB (acer 002), KUP0355,104keys, w/palm
	Chicony Spanish, USB KB (acer 002), KUP0355,105keys, w/palm
	Chicony Turkey, USB KB (acer 002), KUP0355,105keys, w/palm
	Chicony UK, USB KB (acer 002), KUP0355,105keys, w/palm
	Chicony Candian/French, USB KB (acer 002), KUP0355, 105keys, w/palm
	Chicony Sweden, USB KB (acer 002), KUP0355,105keys, w/palm
	Chicony Hungaria, USB KB (acer 002), KUP0355,105keys, w/palm
	Chicony Greek, USB KB (acer 002), KUP0355,104keys, w/palm
	Chicony Brazilian, USB KB (acer 002), KUP0355,107keys, w/palm
	Chicony Japanese,USB KB (acer 002), KUP0355,109keys, w/palm

Online Support Information

This section describes online technical support services available to help you repair your Acer Systems.

If you are a distributor, dealer, ASP or TPM, please refer your technical queries to your local Acer branch office. Acer Branch Offices and Regional Business Units may access our website. However some information sources will require a user i.d. and password. These can be obtained directly from Acer CSD Taiwan.

Acer's Website offers you convenient and valuable support resources whenever you need them.

In the Technical Information section you can download information on all of Acer's Notebook, Desktop and Server models including:

❑ Service guides

❑ User's manuals

❑ Training materials

❑ Bios updates

❑ Software utilities

❑ Spare parts lists

❑ TABs (Technical Announcement Bulletin)

For these purposes, we have included an Acrobat File to facilitate the problem-free downloading of our technical material.

Also contained on this website are:

❑ Detailed information on Acer's International Traveller's Warranty (ITW)

❑ Returned material authorization procedures

❑ An overview of all the support services we offer, accompanied by a list of telephone, fax and email contacts for all your technical queries.

We are always looking for ways to optimize and improve our services, so if you have any suggestions or comments, please do not hesitate to communicate these to us.